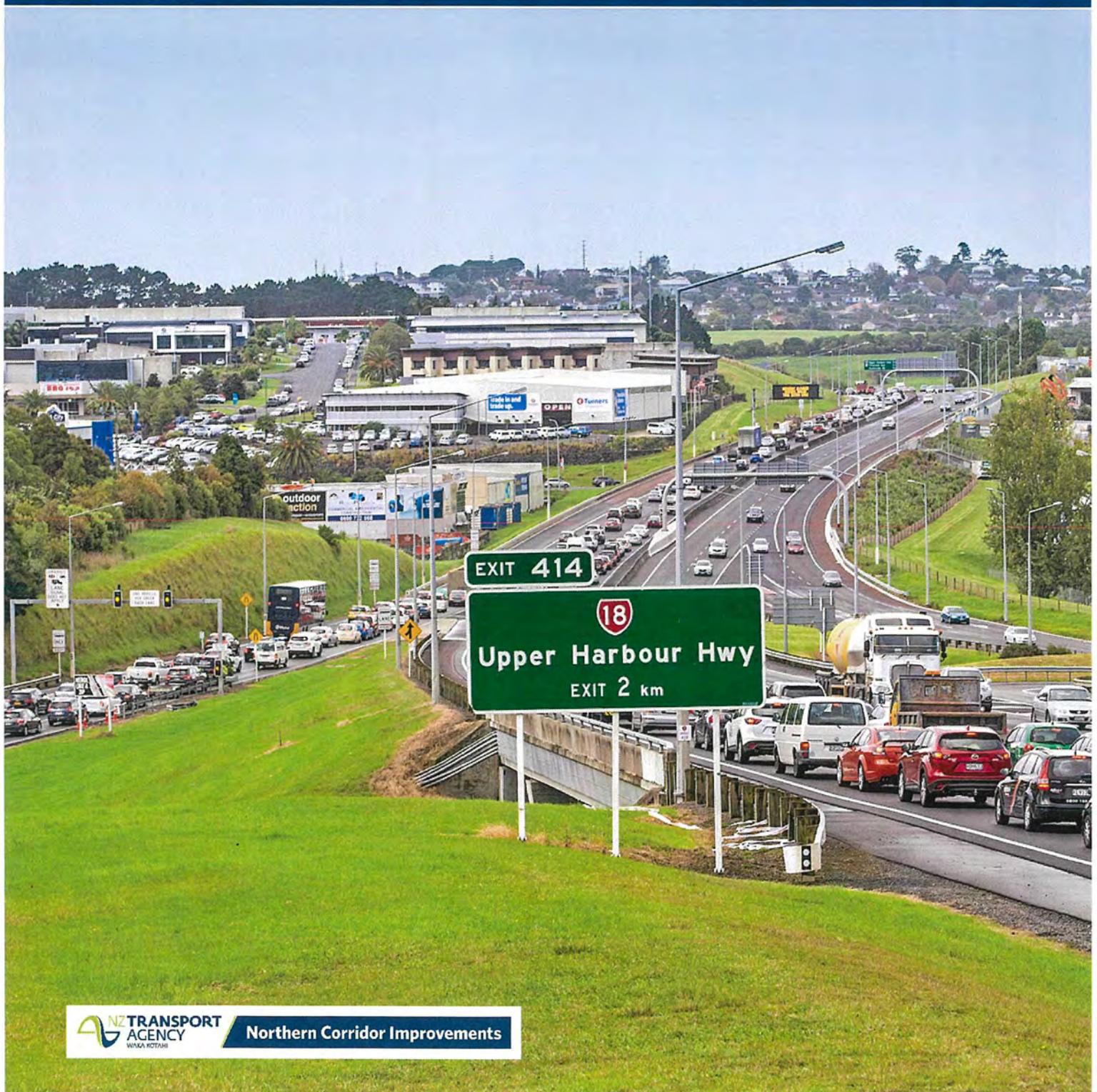


Northern Corridor Improvements Contract CA4239

S181(3) Alteration to Designation Rosedale Area



Document Details

Document name	Status	Document No.	Author
S181(3) Alteration to Designation	DRAFT	1	Maree Drury

Document History and Status

Revision	Date	Author	Reviewed by	Approved by	Status
A		Maree Drury			

Revision Details

Revision	Details

Notice of Alteration to Designation under Section 181(3) of the Resource Management Act 1991 (RMA)

To: Auckland Council
Private Bag 92300
Auckland 1142

From: NZ Transport Agency
Private Bag 106602
Auckland 1143

(Please note different address for service given below)

Pursuant to section 181(3) of the Resource Management Act 1991 (the RMA), the NZ Transport Agency (the Transport Agency) gives notice of a minor alteration to designations in the Auckland Unitary Plan (Operative in Part) referenced as:

- Designation 6750: State Highway 1 (SH1) from Auckland Harbour Bridge, Northcote to Greville Road interchange, Albany;
- Designation 6775: The Northern Busway Designation adjacent to State Highway 1 from Constellation Bus Station to Albany Bus Station; and
- Designation 6776: The Shared Use Path (SUP) Designation adjacent to State Highway 1 from Constellation Bus Station to Oteha Valley Road.

The site to which the minor alteration applies is as follows:

The land affected by the minor alteration is the area shown on the drawing in **Appendix B** at the following addresses:

- 121 Rosedale Road;
- 9 Arrenway Drive;
- 11 Arrenway Drive; and
- 13 Arrenway Drive.

The Crown owns all the above properties. The Transport Agency has granted licences to occupy to third parties in relation to the buildings at the eastern end of the sites at 11 and 13 Arrenway Drive as in shown on the aerial photographs in **Appendix G**. These areas do not overlap the NCI Project designation (or the area affected to the minor adjustment to the designation boundary within 11 Arrenway Drive). 121 Rosedale Road and 9 Arrenway Drive are not subject to any leases or licences.

The nature of the minor alteration is:

The alteration to the designation involves a minor change to the designation boundary (approximately 139m² in two narrow strips) as shown on drawing 500031-0500 in **Appendix B**, and minor changes to the alignment of the busway and SUP as a result of the detailed design process. Further details are set out in **Appendix A**.

The Transport Agency attaches the following information:

- Details of the minor alteration (**Appendix A**)
- Drawing showing the area affected by the minor alteration (**Appendix B**)
- Memorandum from Isthmus Group regarding the change in visual and landscape effects (**Appendix C**);
- Memorandum from WSP Opus regarding the change in construction and operational noise effects (**Appendix D**);
- Memorandum from Flow Transportation Specialists regarding the change in the location of the SUP connection to the local road network (**Appendix E**);
- Letter from Auckland Transport supporting the change in the location of the SUP connection (**Appendix F**);
- Drawing showing the areas subject to licences to occupy at 11 and 13 Arrenway Drive (**Appendix G**); and
- Addendum to the outline plan for the NCI Project (**Appendix H**).

Signed by:



Deepak Rama
Principal Planning Advisor
New Zealand Transport Agency, Northern Region
Pursuant to authority delegated by the NZ Transport Agency
June 2019

Address for Service:

Northern Corridor Improvements
Level 1, Jacobs House, 12 Nicholls Lane
Parnell, Auckland, 1052

ATTENTION:

Maree Drury, 0275442458, maree.drury@wsp-opus.co.nz

Appendix A: Details of the Minor Alteration

This minor alteration to the NCI Project designation involves a small adjustment to the designation boundary to allow for minor changes to the busway and shared use path (SUP) structure as part of the detailed design process. The location of the busway and SUP structure has moved eastwards and the structure has been widened. The switchback SUP connection to Rosedale Road has been replaced with a SUP connection to Arrenway Drive. The area of land required for the boundary alteration is approximately 139m² in total and comprises 3 slithers of land as shown in the drawing in **Appendix B**.

While the minor changes to the busway and SUP structure are part of the detailed design process and are in "general accordance" with condition 1, for clarity the Transport Agency requests amendment of condition 1 to include an updated drawing showing the altered designation boundary and the updated busway and SUP structures.

The proposed minor amendments to the designation are as follows:

- Amend condition DC1 as follows (amendments shown underlined):
DC.1 Except as modified by the conditions below, and subject to final design, the Northern Corridor *Improvements Project* ('Project') shall be carried out in general accordance with:
 - a. *General arrangement drawings*
Sheets 1 and 2, DRG 0201 – 0202, Rev J
Sheets 3 – 8, DRG 0203 – 0208, Rev H (revised Alteration to Designation Boundary – Rosedale)
 - ...
- Amend the designation boundary on the planning maps as shown on the drawing in **Appendix B**.

Section 181(3) of the RMA sets out the requirements for minor alterations to designations as follows:

181 Alteration of designation

[...]

- (3) A territorial authority may at any time alter a designation in its district plan or a requirement in its proposed district plan if—
- (a) the alteration—
 - (i) involves no more than a minor change to the effects on the environment associated with the use or proposed use of land or any water concerned; or
 - (ii) involves only minor changes or adjustments to the boundaries of the designation or requirement; and
 - (b) written notice of the proposed alteration has been given to every owner or occupier of the land directly affected and those owners or occupiers agree with the alteration; and
 - (c) both the territorial authority and the requiring authority agree with the alteration—
- and sections 168 to 179 and 198AA to 198AD shall not apply to any such alteration.

The alteration to the designation complies with the requirements of section 181(3) because:

- The minor change to the busway and SUP structure involves no more than a minor change in the effects on the environment associated proposed use of the land:
 - The structure will have the same appearance from all view points (refer **Appendix C**);
 - The construction processes and noise assessments for the NCI Project remain unchanged and the approved Construction Noise and Vibration Management Plan will continue to apply unchanged (refer **Appendix D**); and
 - The change to the SUP connection point to the local road network will have negligible effects in terms of connectivity and small road safety improvements for users accessing the SUP from the Rosedale area (refer **Appendix E**); and
 - Auckland Transport has provided a letter of support regarding the minor change to the SUP path connection (refer **Appendix F**).
- The change to the designation boundary only involves a minor adjustment over land owned by the Crown (refer **Appendix B**). Therefore, it is not necessary to give written notice of the alteration to any owner or occupier because the Crown owns all of the land directly affected by the alteration. The Transport Agency has granted several tenants at 11 and 13 Arrenway Drive temporary licences to occupy buildings and use carparks within those sites (as shown on the aerial photographs in **Appendix G**). The licence areas do not overlap the NCI Project designation or the minor alteration to the boundary of that designation and therefore, these occupiers are therefore not affected by it.



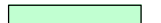
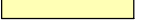

The outline plan already approved by Auckland Council will need to be amended as a result of the minor changes proposed. An addendum to the outline plan of works which updates the relevant drawings and management plans is attached as **Appendix H**.

The minor amendments will not result in any changes to the stormwater management approach authorised under the resource consents for the NCI Project.

For the reasons set out above, Auckland Council is requested to make the alteration to the designation under section 181(3)(c) of the RMA as sought.

Appendix B Drawing showing the minor alteration

LEGEND

- NCI DESIGNATION: 
- PROPERTY BOUNDARY: 
- PROPOSED BUSWAY: 
- PROPOSED SUP: 
- AREA OF ALTERED DESIGNATION: 



CONTAINS 2016 AERIAL IMAGERY SOURCED FROM NZ TRANSPORT AGENCY UNDER CREATIVE COMMONS 3.0 NEW ZEALAND (BY) SCALE 1:500

CLIENT		REV	DATE	REVISION DETAILS	APPROVED	SCALE	SIZE	PRELIMINARY NOT FOR CONSTRUCTION	PROJECT	NCI PROJECT			
		A	22.05.19	ISSUED FOR MINOR ALTERATION TO NCI DESIGNATION	J. LOVELOCK	1:500	A1			MINOR ALTERATION TO NCI			
								APPROVED	TITLE				
								DATE					
DRAWN		PROJECT No.		WBS	TYPE	DISC	NUMBER	REV					
DESIGNED		500031		0500	SKT	CC	0029	A					
REVIEWED													
J. LOVELOCK													



Appendix C – Memorandum from Isthmus Group – Landscape and Visual effects

Isthmus.

MEMO: NORTHERN CORRIDOR IMPROVEMENTS MINOR ALTERATION

LANDSCAPE + VISUAL EFFECTS

1 INTRODUCTION

- 1.1 The NZ Transport Agency is proposing a minor adjustment to the NCI Project designation boundary to allow for minor changes to the busway and shared use path (“SUP”) structure as part of the detailed design process. Isthmus Group has been asked to assess the effects of the changes from a visual and landscape perspective. The key changes relevant to our discipline are as follows:
- **Widening** of the Busway and SUP from approximately 14m to approximately 31m–33m wide (measured perpendicular to the busway) where it will cross Rosedale Road on a splayed bridge.
 - **Replacement** of the switch-back ramp structure between the SUP and Rosedale Road with an at-grade connection to Arrenway Drive – which will also include an upgraded ‘share with care’ path on Arrenway Drive to the intersection with Rosedale Road.
- 1.2 The works will be accommodated within the approved NCI designation and Arrenway Drive road reserve with the exception of two small areas (approximately 117m² and 14m²) to be added to the designation to accommodate the changes in alignment of the SUP. Both areas are within properties owned by NZTA.

2 CHANGES TO UDLP

Changes to UDLP

- 2.1 The Urban Design and Landscape Plan (“UDLP”) that formed part of the approved Outline Plan of Works (“OPW”) comprises ‘valley planting’ in the vicinity of Rosedale Road. This denotes a mix of indigenous species to suit the ecology and character of the vicinity including such plants as tōtara, karamū, ti (cabbage tree), mānuka, kānuka, nīkau, toetoe, and harakeke (flax). The planting covers the embankments, provides a border to SUP, and an edge to soften the bridge under-croft.
- 2.2 The UDLP has been updated to suit the revised alignment. The concept is essentially the same, and will achieve similar outcomes.

3 EFFECTS

Visual amenity from public places

- 3.1 The variation will increase the width of the busway/SUP bridge for people on Rosedale Road, off-set by the removal of the SUP ramp structure. The area will retain similar characteristics and qualities.
- 3.2 There will be little difference for motorway users. While the busway and SUP will be widened at this location, the essential character of the corridor will remain unchanged.

Amenity for SUP users

- 3.3 The realigned access to the SUP will have a gentler grade and connect to a quieter street (Arrenway Drive). The amenity effect will vary depending on direction of approach:
- People in the business area to the south-east (i.e. Arrenway and Apollo Drive area) will experience improved amenity – quieter streets, easier grades, shorter routes.
 - People accessing the SUP via Rosedale Road from the east will have slightly improved amenity if travelling toward the city (quieter streets, easier grades, shorter routes) and easier grades but slightly longer route if travelling toward Albany.
 - People accessing the SUP from the area west of the motorway will have slightly reduced amenity – easier grades but longer routes.
- 3.4 Overall, there will be both positive and adverse amenity effects of ‘low’ magnitude.

Visual amenity from private properties

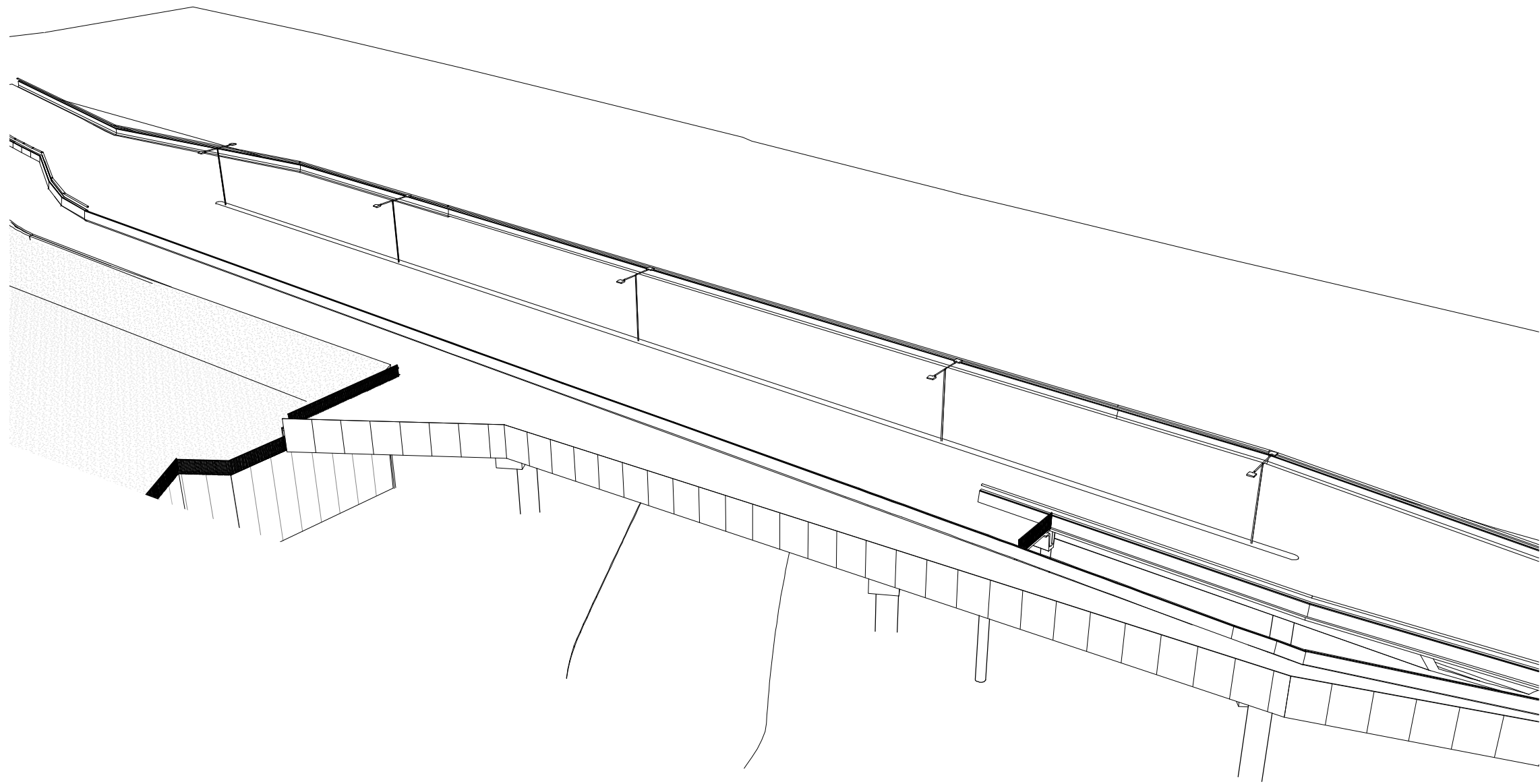
- 3.5 The proposed variation largely falls within properties owned by NZTA at 9 Arrenway Drive and 121 Rosedale Road. While NZTA also owns the other two properties potentially affected at 11 and 13 Arrenway Drive, these properties still contain tenants who are subject to a licence to occupy. Visual effects on these tenants have been assessed:
- **11 Arrenway Drive:** This property is owned by NZTA and currently occupied by a garden and fencing supply business. The busway and SUP will encroach slightly further into this property and a sliver of land (approximately 14m²) will be added to the designation – although this will be outside the area of the licence to occupy. The character of outlook will not change and the realignment in this location is very small. The change in visual effects on this property will be ‘very low’.
 - **13 Arrenway Drive:** This property is owned by NZTA and currently contains live-work units. The variation will not directly affect this property, but the increased width of the busway and SUP will be visible from the upstairs floors of the units, beyond the intervening property. The character of the outlook will remain similar to the approved NCI. Any change in visual effects will be ‘low’.

- The change in effects from **other private properties** in the area will be 'very low'. The widening and small realignment of the busway/SUP will not be particularly noticeable given the separation and relative elevation of views. The essential character of the NCI project will not change.
- In summary, adverse effects on nearby properties will be either 'very low' or 'low'.

4 CONCLUSION

- 4.1 The proposed minor alterations will be in keeping with the character of the urban environment and the approved Northern Corridor Improvements. Taken together, any change in the landscape and visual effects will be negligible.

Gavin Lister
Isthmus
7 June 2019



NO BUILDING WORK SHALL PROCEED UNTIL BUILDING CONSENT HAS BEEN GRANTED FOR THE WORK DESCRIBED

No	DATE	DRG CHECK	DESIGN REVIEW	APP'D D.MGR	REVISIONS & ISSUES
B	07/06/19			DC	FOR RC
A	30/05/19			DC	FOR RC



Northern Corridor Improvements

SCALE	NOT TO SCALE
STATUS	
PROJECT NUMBER	IZ093500 / 1-C1592

CLIENT	NZ TRANSPORT AGENCY		
PROJECT	NORTHERN CORRIDOR IMPROVEMENTS		
DRAWN	DRAWING CHECK	APPROVED	
AH	RH	DC	
DESIGNED	DESIGN REVIEW		
EL	RU		

TITLE	BUSWAY BRIDGE PERSPECTIVE 1		
DRAWING No	NCI-B-9067-DG-OLD-5192		REV
			B

DATE: 7/06/2019 11:07:35 AM

Appendix D – Memorandum from NCI Alliance – Noise

Memorandum

To Maree Drury

Copy

From Iain McIver

Office Opus Research

Date 7 June 2019

File

Subject Minor Alteration to NCI Designation - Rosedale Road Structure

Introduction

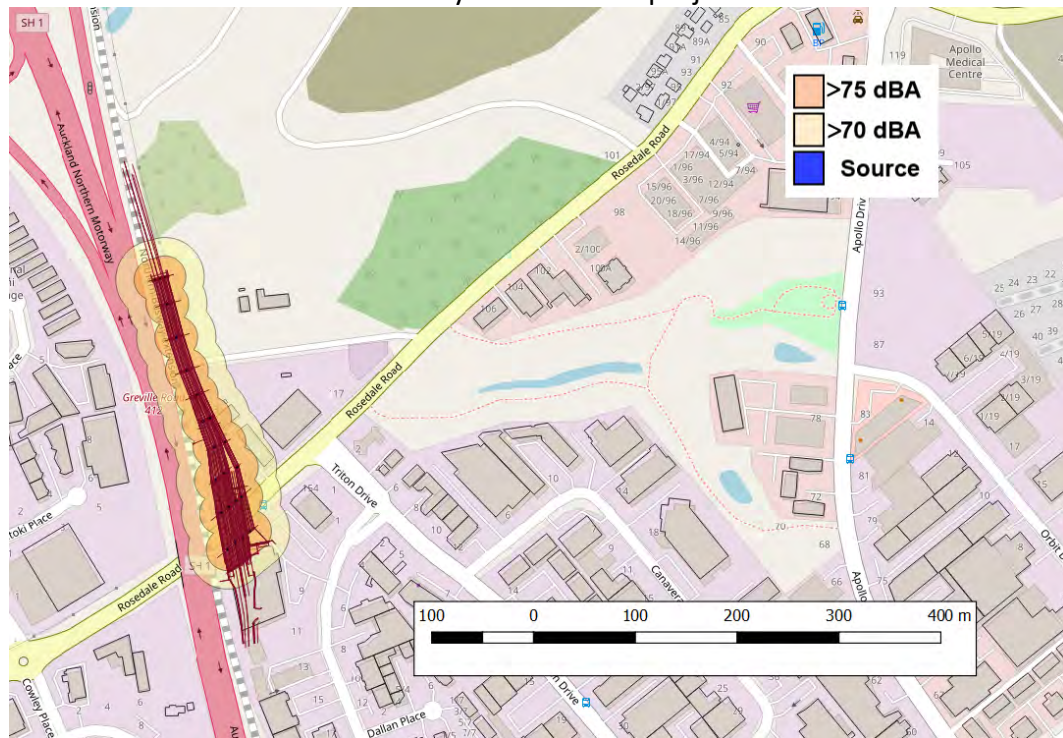
- 1 The NZ Transport Agency is proposing a minor alteration to the Northern Corridor Improvements (NCI) Project designation to allow for minor changes to the busway and shared use path (SUP) structure (the Structure) as part of the detailed design process. The location of the Structure has moved eastwards and has been widened.
- 2 The NCI Alliance has been undertaking the construction of the NCI Project. As part of that work, a Construction Noise and Vibration Management Plan (CNVMP) has been prepared for the Project which has been approved by Auckland Council.
- 3 Reference has been made to the CNVMP in this memorandum. This reference is to the version of the CNVMP dated 22/02/2018.
- 4 This memorandum is focused on the potential change in construction noise and vibration effects arising from the changes to the Structure. Construction on other sections of the NCI project since producing the CNVMP has led to more information being available on the noise levels being generated by the actual pieces of equipment to be used for building the Structure.
- 5 The NCI Project design information used for the initial modelling in the CNVMP was the “50% design”. The design information available now is more advanced and as such construction activities can be more accurately located within the design.
- 6 This memorandum only considers the effects of construction noise and vibration. As there are no PPFs in close proximity to the structure, there will be no change in relation to operational noise effects.

Driving of pile casings for the Structure

- 7 Actual noise measurements have been taken for the vibratory driving of pile casings at another location on the NCI project. This data has been used to generate separation

distances required for the 75 dB L_{Aeq} and 70 dB L_{Aeq} limits given in the NCI designation conditions. The actual noise measurement included a full piling rig (operating), along with some other auxiliary construction equipment. These noise measurements have led to a conservative assessment. The measured noise level was 75 dB $L_{Aeq(15min)}$ measured at 20 m.

Figure 1: Noise contours from vibratory pile driving, calculated from actual noise measurements of the same activity from the NCI project.



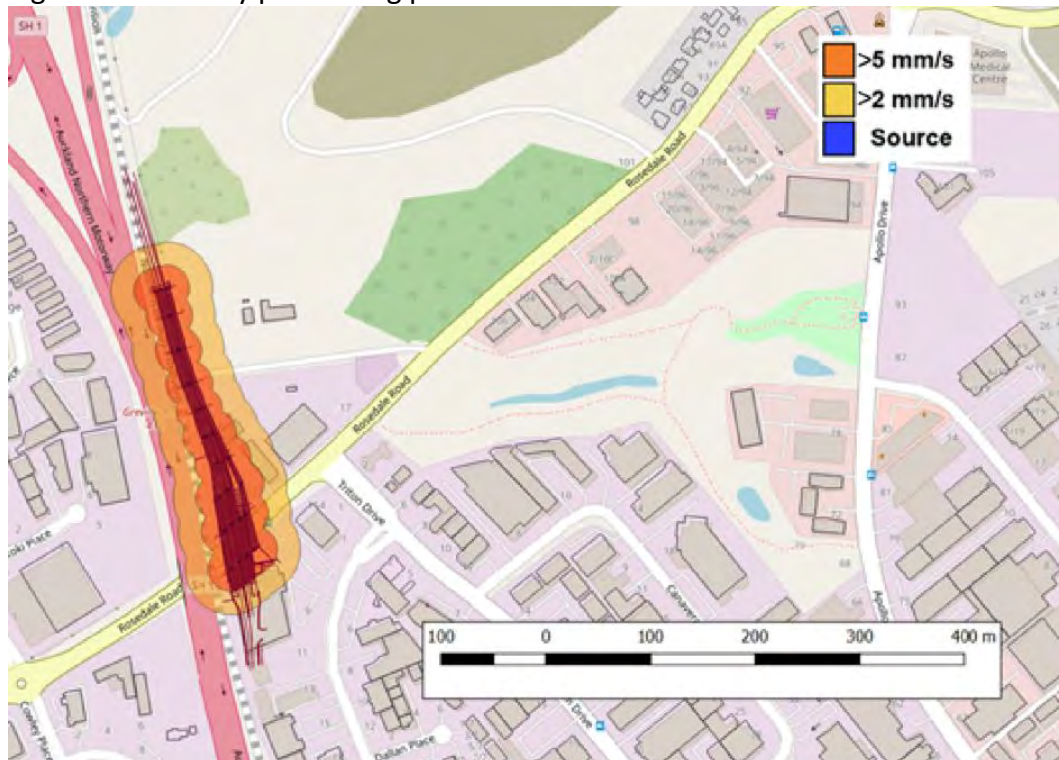
- 8 The level of effect from noise of vibratory driving of pile casings is less than predicted in the CNVMP (refer Figure C3 of the CNVMP). It should also be noted that the modelling does not predict any exceedance of the designation condition noise limits for vibratory driving of pile casings.

Figure 2: Figure C3 from the CNVMP.



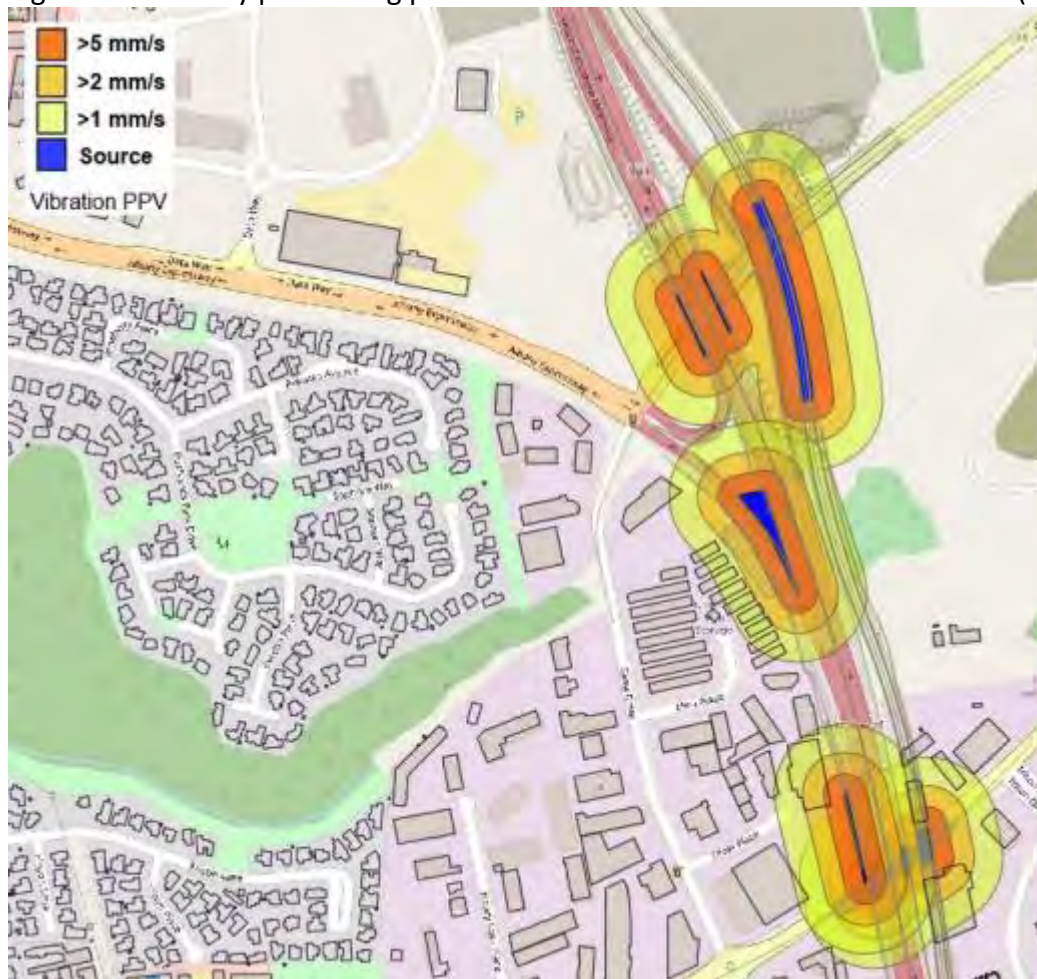
- 9 Vibration contours from vibratory pile driving have been calculated for vibratory driving of pile casings. These contours have been calculated using theoretical vibration levels for the piling equipment.

Figure 3: Vibratory pile driving predicted vibration contours for the alteration



- 10 The predicted level of effect from the vibratory driving differs slightly from the than that predicted in the CNVMP (refer data used for Figure C4 from the CNVMP below). However, vibration levels will be monitored at piling locations furthest from nearby receivers initially with a SSCVMP prepared and mitigation (screw in pile casings) provided if required. Therefore, any change in vibration effects will be no more than minor.

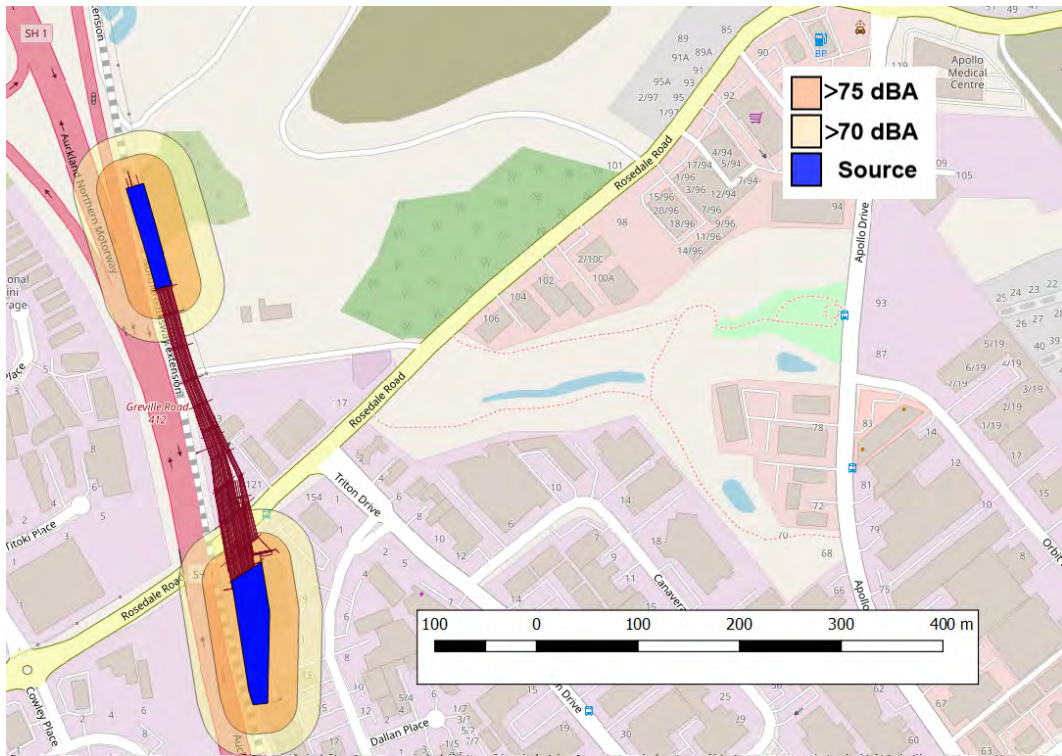
Figure 4: Vibratory pile driving predicted vibration contours from the CNVMP (Figure C4)



Placement and compaction of fill material

- 11 Noise contours from fill placement and compaction have been calculated and shown below. The more detailed location of the fill placement and compaction works have led to less effects than those predicted in the CNVMP (Figure C12). These works are not expected to require a SSCNMP.

Figure 5: Noise contours for placement and compaction of fill for the alteration



- 12 Vibration contours from fill placement and compaction have been calculated and shown below. The more detailed location of the fill placement and compaction works have led to less effects than those considered in the CNVMP (Figure C14). These works are not expected to require a SSCVMP.

Figure 6: Vibration contours for the placement and compaction of fill for the alteration



Craning beams for the Structure

- 13 The effect of the minor alteration to the designation on the noise from craning beams into place during the night is insignificant. These works are expected to have an effect but this is unchanged by the minor alteration to the location of the Structure. The noise contours shown in Figure D7 of the CNVMP are unchanged for these works. A SSCNMP is still required for these works.

Conclusion

- 14 The predicted level of effect of noise from the vibratory driving of pile casings for the Structure is less than that predicted in the CNVMP. The predicted vibration effects from the vibratory driving of pile casings is slightly larger than in the CNVMP. As would have been the case prior to the minor alteration, any noise and vibration effects potentially arising from vibratory driving of pile casings will be identified before the construction works are close enough to adjacent properties to cause an effect. In the event that the potential for effects is identified, site specific management plans will be prepared. There are several options for mitigation of both noise and vibration from vibratory driving of pile casings which will be used if required. Accordingly, any change in the level of vibration from vibratory pile driving will be no more than minor.
- 15 Actual noise and vibration effects from the placement and compaction of fill material are unchanged by the minor alteration to the designation. The modelled effect from the alteration is less than that modelled in the CNVMP due to the additional detail in the modelling.
- 16 The noise effects from the craning of beams into place are expected to be the same as those identified in the CNVMP.
- 17 No other construction activities, with noise and vibration effects, are expected to be altered due to the alteration to the Structure.

Appendix E – Memorandum from Flow Transportation Specialists – Transportation Effects

5 June 2019

Maree Drury
Northern Corridor Improvements Alliance
10 Rothwell Avenue
Rosedale
AUCKLAND 0632

Dear Maree

MEMORANDUM REGARDING TRANSPORT EFFECTS: S181(3) MINOR ALTERATION TO DESIGNATION – ROSEDALE AREA

The NZ Transport Agency is proposing a minor alteration to the Northern Corridor Improvements (NCI) Project designation involves a minor adjustment to the designation boundary to allow for minor changes to the busway and shared use path (SUP) structure as part of the detailed design process as shown in drawing 500031-0500 attached to this memorandum. The location of the busway and shared use path structure has moved eastwards and the structure has been widened. The switchback SUP connection to Rosedale Road has been deleted and replaced with a SUP connection to Arrenway Drive.

We have been asked to assess the change in transport effects resulting from the minor alteration. We have assessed the potential effects arising from the relocation of the SUP connection to Arrenway Drive.

The proposed minor alteration will not result in any change in transport effects once the NCI Project is operational because no changes are proposed to the proposed layout (other than the shift in the SUP connection which is addressed below).

Shared Use Path

Pedestrian and Cyclist Connectivity

The existing NCI designation proposes a SUP connection on the north side of Rosedale Road, via an approximately 120 m long ramp. The proposed alteration would instead provide access to the SUP via Arrenway drive. As a result, the alteration is expected to result in the following connectivity effects to/from the SUP:

- ◆ Increased trip lengths between Rosedale Road (west) and the SUP by approximately 250 to 450 m (depending on the direction of travel on the SUP);
- ◆ Changes in trip lengths between Rosedale Road (east) and the SUP by approximately -100 m to +100 m;
- ◆ Reduced trip lengths between Triton Drive and the SUP by approximately 50 to 250 m; and
- ◆ Reduced trip lengths between Arrenway Drive and the SUP by approximately 300 to 500 m.

The above changes in connectivity are both positive and negative, but are not considered significant when viewed within the context of SUP trips which will tend to be several km long.

At a strategic level, both the existing designation and proposed minor alteration will result in the same network connectivity – with a connection to the proposed SUP in the general Rosedale Road area.

Pedestrian and Cyclist Safety

The existing designation has a number of minor safety concerns that the proposed alteration either removes or reduces. These include:

- ◆ The existing designation would provide a ramped access between Rosedale Road and the proposed SUP, with this ramp containing a number of 180-degree switchbacks. This would have minor adverse safety impacts, as these bends are difficult for cyclists to traverse, and may result in users losing control and collisions with other users. The proposed alteration removes the ramp, resulting in improved safety outcomes.
- ◆ The existing designation would require pedestrians and cyclists to access the SUP via Rosedale Road – a relatively busy road with a recorded daily traffic of 16,800 vehicles/day. By contrast the proposed designation alteration provides access via Arrenway Drive – a significantly lower volume local street. As a result, the proposed alteration provides improved safety outcomes for users coming to or from the Arrenway Drive/Triton Drive business area, by removing the need for these users to cross or use Rosedale Road. Safety for users coming from or going to other areas would be no different as a result of the proposed alteration.

Access Gradients

The existing designation would provide a ramped access from Rosedale Road to the proposed SUP. This ramp would be approximately 120 m long in order to climb the approximately 6 m level difference, with gradients of 1:20. The proposed alteration would instead provide a relatively level access between Arrenway Drive and the SUP. It is noted however that Arrenway Drive itself has a gradient of approximately 1:20, so in effect, both the existing designation and the proposed alteration would result in comparable level of accessibility to the SUP.

Construction Effects

The proposed designation alteration would require the construction of a wider busway bridge structure than the existing designation. It is expected that the construction traffic effects of this change would be consistent with those of the original designation.

Conclusion

Relative to the existing designation, the proposed alteration is expected to result in:

- ◆ Small improvements and reductions in connectivity to the SUP for various users, with the net effect being negligible;
- ◆ Small road safety improvements for users accessing the SUP from the Rosedale area; and
- ◆ No material changes in construction effects.

As a result, in terms of both the construction and operational effects, the proposed designation alteration is expected to result in either a negligible or no change in transport effects.

Yours sincerely



Michael Jongeneel
ASSOCIATE

Reference: P:\NZTA\140 Rosedale Busway Station\4.0 Reporting\L1B190605 Minor alteration.docx - Michael Jongeneel

Appendix F – Letter from Auckland Transport

4 June 2019

Northern Corridor Improvements Alliance
c/- Maree Drury
12-16 Nicholls Lane
Parnell
Auckland 0105

Dear Maree

Minor Alteration to Location of Shared Use Path and Connection – Rosedale Area

Auckland Transport (AT) has reviewed information submitted by the Northern Corridor Improvements Alliance for a minor alteration to the Northern Corridor Improvements Designation, specifically the following document:

- S181(3) Alteration to Designation Rosedale Area (Rev A), including Appendix A - H

The minor alteration proposes to move the location of the busway and shared use path (SUP) structure slightly eastwards and the structure has been widened. The switchback SUP connection to Rosedale Road has been deleted and replaced with a SUP connection to Arrenway Drive.

AT has no issues with the proposed minor alteration for the following reasons:

- The proposed alteration to the SUP alignment will result in the same network connectivity with negligible differences.
- It is considered there will be a minor safety improvement for users accessing the SUP from the Rosedale area.

On this basis, AT hereby provides approval for the minor alteration detailed in S181(3) Alteration to Designation Rosedale Area (Rev A), including Appendix A – H.



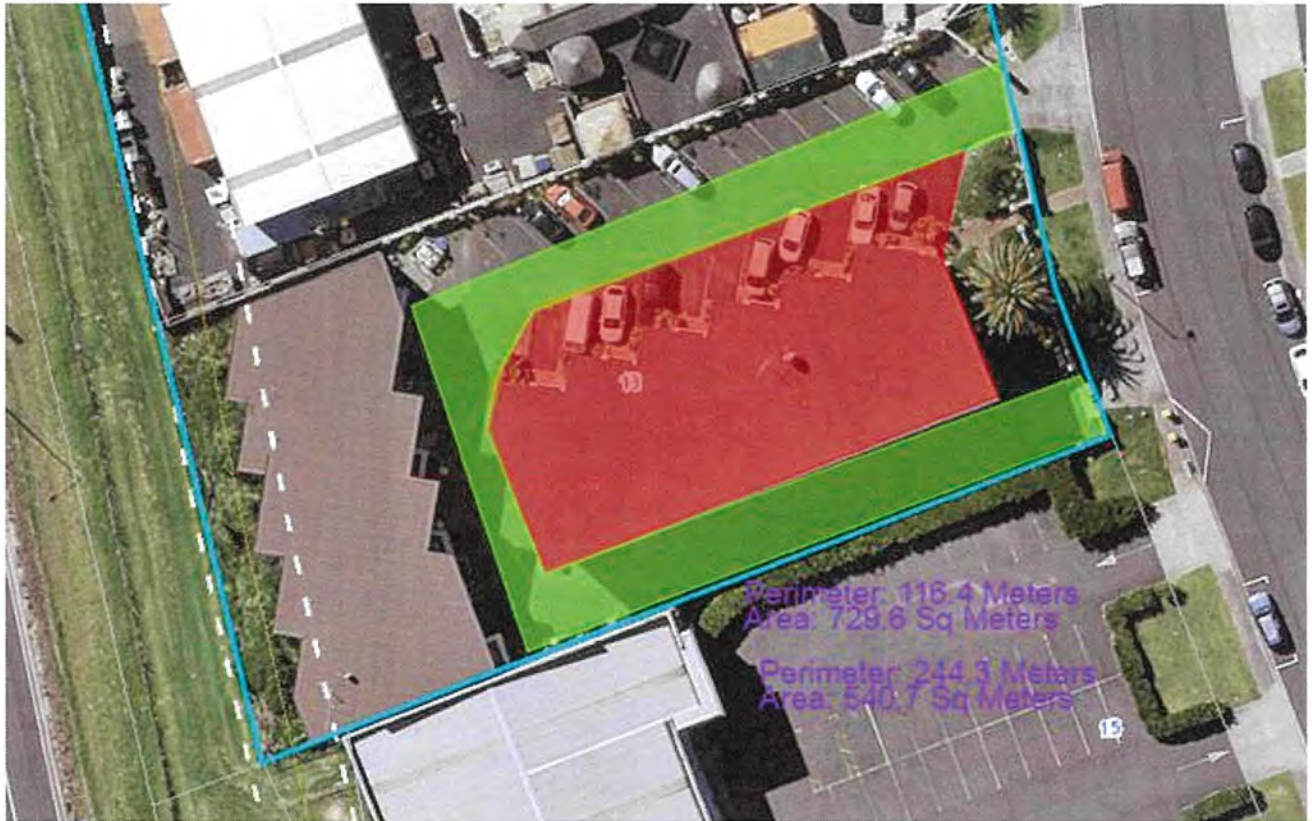
Ali Rajaiy
Principal Investigation & Design Engineer
Investigation & Design – North West

Cc: Alice Ge (AT Senior Planner)

Appendix G - licences at 11 and 13 Arrenway Drive

13 Arrenway Drive

Accessways are shown in **green**, and the building is shown in **red**.



13 Arrenway Drive

Licence area is shown outlined in **red**, and a common area for access purposes is shown outlined in **green**.



Appendix H – Addendum to the Outline Plan (OP) for the NCI Project

This addendum to the OP for the NCI Project addresses the changes resulting from the minor alteration to the designation to accommodate minor changes to the busway and SUP structure in the Rosedale area.

Under section 176A(3) of the RMA, an OP must contain the following information:

- (a) the height, shape, and bulk of the public work, project, or work; and*
- (b) the location on the site of the public work, project, or work; and*
- (c) the likely finished contour of the site; and*
- (d) the vehicular access, circulation, and the provision for parking; and*
- (e) the landscaping proposed; and*
- (f) any other matters to avoid, remedy, or mitigate any adverse effects on the environment.*

Condition DC.6 of the NCI Project designations (numbers 6750, 6775 and 6776) contains the following additional requirements:

DC.6 *The outline plans ('OP') shall include the following plans for the relevant stage(s) of the Project:*

- *Construction Noise and Vibration Management Plan ('CNVMP') prepared in accordance with conditions CNV.1 to CNV.9;*
- *Construction Traffic Management Plan ('CTMP') prepared in accordance with conditions CTMP.1 to CTMP.5D; and*
- *Urban Design and Landscape Plan(s) ('UDLP') prepared in accordance with conditions UDL.1 to UDL.12.*

The CNVMP, CTMP and UDLPs may be amended following the submission of the OP(s) if necessary to reflect any changes in design, construction methods, or management of effects. Any amendments are to be discussed with and submitted to the Council for information without the need for a further OP process, unless those amendments once implemented would result in materially different effects to that described in the original CNVMP, CTMP, and UDLPs.

1.1.1 The Height, Shape and Bulk of the Project

The height, shape and bulk of the works is shown in the general arrangement drawings, cross sections, plan and long sections and civil structures drawings provided in **Appendix 1**.

1.1.2 The Location on the Site of the Project

The location of this part of the NCI Project is shown on the drawing in **Appendix 2**.

1.1.3 The Likely Finished Contour of the Project

The likely finished contour for each section of this part of the project area is shown on each general arrangement sheet in **Appendix 1**.

1.1.4 Vehicular Access, Circulation and the Provision for Parking During Construction

Below is a summary of the key aspects of how vehicular access, circulation and parking during construction is being provided. The CTMP lodged with the OP for the NCI Project remains unchanged except as noted below.

Location of Accessways, Stockpile and Laydown Areas

Primary local roads that connect to the expected accessways in this area have been identified as Rosedale Road and Arrenway Drive. In selecting these access routes, consideration has been given to important elements such as the properties these roads serve, and the potential for impacts on AT's bus routes. Existing access ways at Arrenway Drive and Rosedale Road will be used as shown in the drawings in **Appendix 3**. Circulation of vehicles in and out of the accessways and site offices will be described in the Site Specific Traffic Management Plans (SSTMPs). The standard to which accessways will be constructed will be in accordance with the SSTMPs.

Minimal Disruption to Local Roads

Local roads linking to accessways will not be impacted because full vehicle cleaning controls will be in place. The access route from the hardstands to the road will be metalled to prevent any contamination after washing. Sweepers will be utilised to remove any debris that is tracked out onto the roading network.

The impacts of truck movements will be minimised through:

- GPS on the majority of transportation trucks to monitor truck circulation and provide precise tracking;
- Setting geo-fences at approach points, so the site is forewarned of arrival times; and
- Tracking trucks against bus routes at peak times.

1.1.5 The Landscaping Proposed

Over the short term, adverse landscape effects are unavoidable but are tempered by the staging of the construction phase within identified areas progressively rehabilitated and developed. The changes proposed to the Urban Design and Landscape Plan as part of the minor alteration are shown in **drawing 1** below. The planting proposed is well in excess of the landscaping anticipated for this area under the Urban Design And Landscape Framework considered at the Board of Inquiry stage.

1.1.6 Other Matters to Avoid, Remedy or Mitigate any Adverse Effects on the Environment

The section provides an assessment of any other potential adverse effects as a result of the minor alteration for the purposes of the busway and SUP and outlines any necessary mitigation measures in accordance with section 176(A)(3)(f) of the RMA.

Construction Noise and Vibration Effects

The potential for change in construction noise and vibration effects arising from changes to the busway alignment has been assessed and findings are provided in Appendix D Construction on other sections of the NCI project since producing the CNVMP has led to more information being available on the noise levels being generated by the proposed construction method; vibratory driving of pile casings .

Actual construction data shows that level of effect from noise of vibratory driving of pile casings is less than predicted in the CNVMP. As a result updated modelling does not predict any exceedance of the designation condition noise limits for vibratory driving of pile casings.

The predicted level of effect from vibration with vibratory driving differs slightly from that predicted in the CNVMP. As a result, vibration levels will be monitored at piling locations furthest from nearby receivers initially, with a SSCVMP prepared and mitigation by way of change to use of screw in pile casings if required. This will be done to ensure any change in vibration effects will be no more than minor.

Actual noise and vibration effects from the placement and compaction of fill material are unchanged by the minor alteration to the designation. The modelled effect from the alteration is less than that modelled in the CNVMP due to the additional detail in the modelling.

Mitigation and management processes will be employed to reduce effects and ensure compliance with existing designation limits for construction noise and vibration.

As noted in the documentation submitted with the minor alteration to the designation, the minor changes to the busway and SUP structure will not result in a change in adverse effects that are more than minor. The CNVMP, CTMP and UDLP will continue to apply except as amended as follows:

- The CTMP is amended to include the drawing in **Appendix 3**; and
- The UDLP is amended to include the drawings in **Appendix 4**.

Conclusion

This amendment to the OP for the NCI Project has been written in accordance with Section 176A RMA and the relevant conditions of the NCI Project designations. Following the detailed design process minor changes have been made to the busway and SUP structure. These minor changes have necessitated minor changes to the OP for the NCI Project including the substitution of new plans and minor amendments to the CTMP and UDLP.

Accordingly, pursuant to Section 176A of the RMA, Auckland Council can confirm this addendum to the OP for the NCI Project without modification.

Drawing 1

Figure 1: Noise contours from vibratory pile driving, calculated from actual noise measurements of the same activity from the NCI project.



Figure 3: Vibratory pile driving predicted vibration contours for the alteration



Figure 5: Noise contours for placement and compaction of fill for the alteration

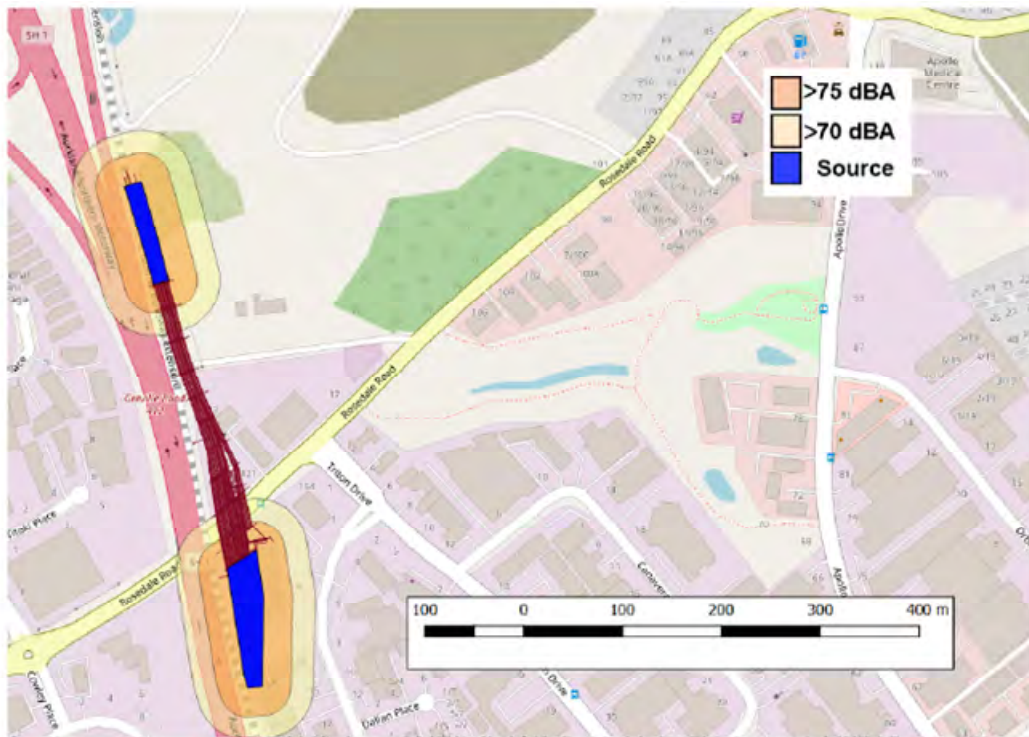
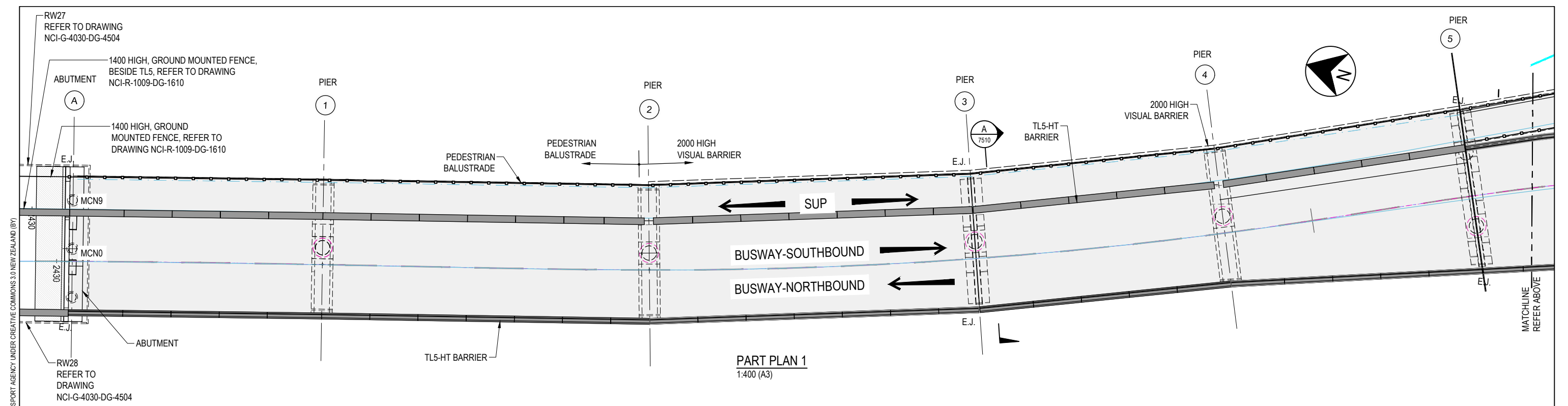


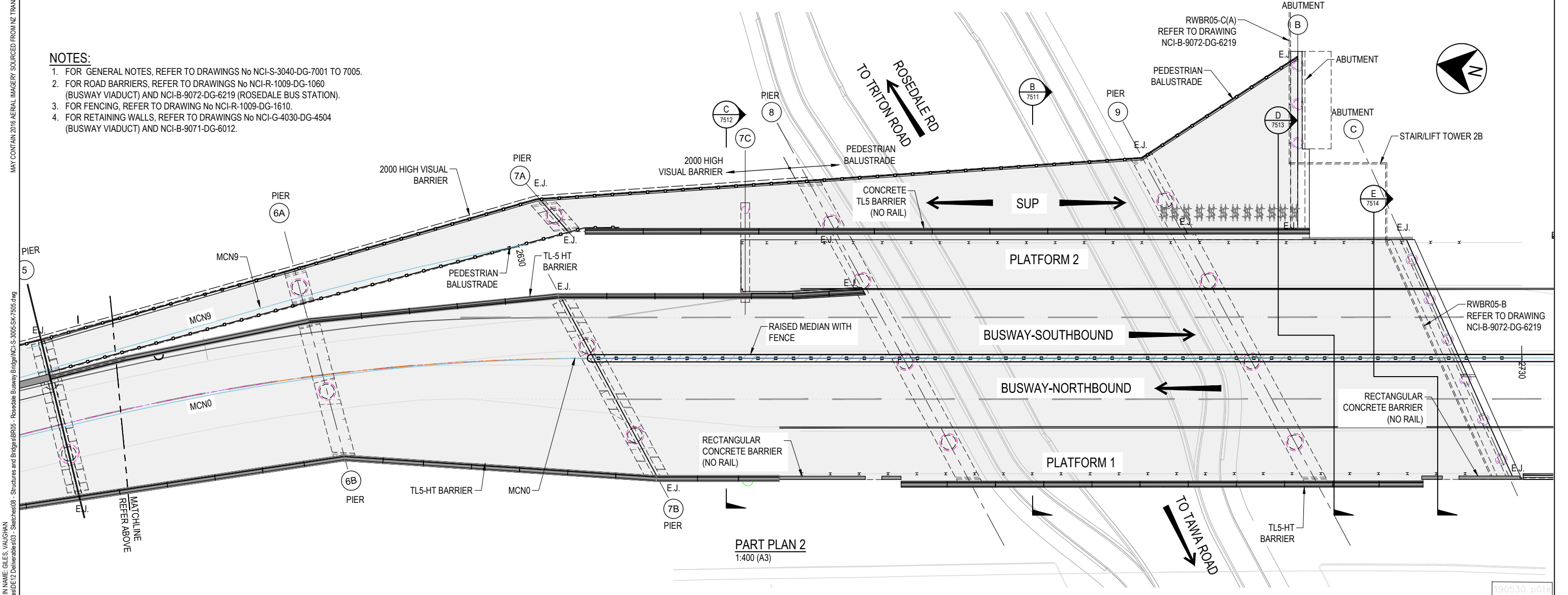
Figure 6: Vibration contours for the placement and compaction of fill for the alteration



Appendix 1



- NOTES:**
1. FOR GENERAL NOTES, REFER TO DRAWINGS No NCI-S-3040-DG-7001 TO 7005.
 2. FOR ROAD BARRIERS, REFER TO DRAWINGS No NCI-R-1009-DG-1060 (BUSWAY VIADUCT) AND NCI-B-9072-DG-6219 (ROSEDALE BUS STATION).
 3. FOR FENCING, REFER TO DRAWING No NCI-R-1009-DG-1610.
 4. FOR RETAINING WALLS, REFER TO DRAWINGS No NCI-G-4030-DG-4504 (BUSWAY VIADUCT) AND NCI-B-9071-DG-6012.



DATE: 7/06/2019 10:31:20 AM	LOG IN NAME: GILES, VAUGHAN	LOCATION: F:\PIA and PAA Phases\DET\Deliverables\03 - Sketches\08 - Structures and Bridges\BR05 - Rosedale Busway Bridge\NCI-S-3005-SK-7505.dwg
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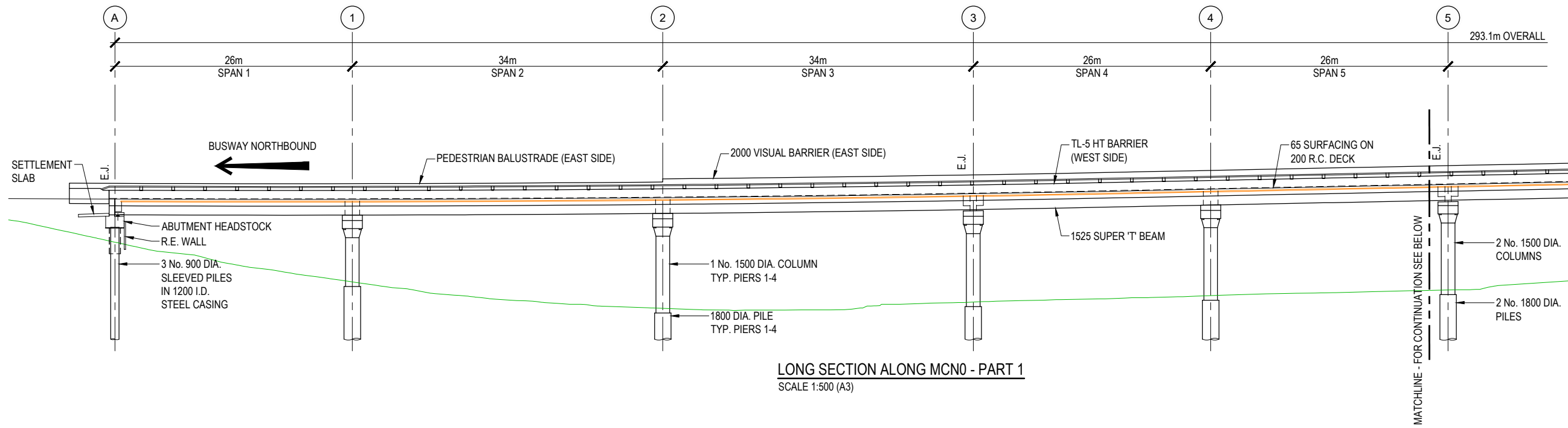
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PROJECT NUMBER: IZ093500 / 1-C1592	DRAWN: MR AF	DESIGNED: AF
	DRAWING CHECK: RH	DESIGN REVIEW: PC
	APPROVED: MM	REV: A

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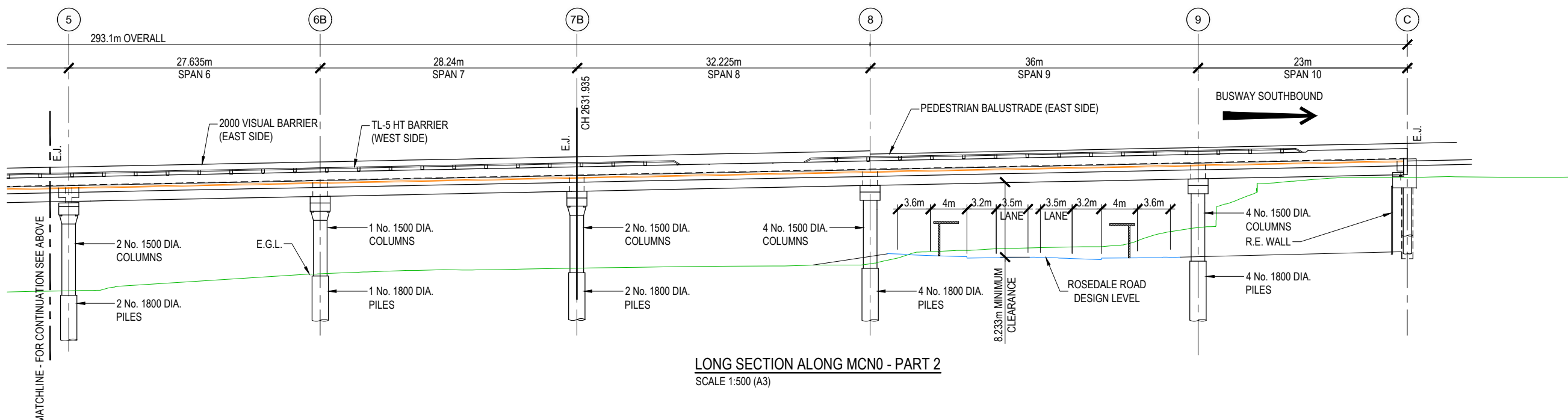
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LONG SECTION ALONG MCN0 - PART 1
 SCALE 1:500 (A3)



LONG SECTION ALONG MCN0 - PART 2
 SCALE 1:500 (A3)

NOTES:
 1. FOR GENERAL NOTES, REFER TO NCI-S-3040-DG-7001 TO 7005.

A		07/06/19	AK	PC	MM	ISSUED FOR INFORMATION
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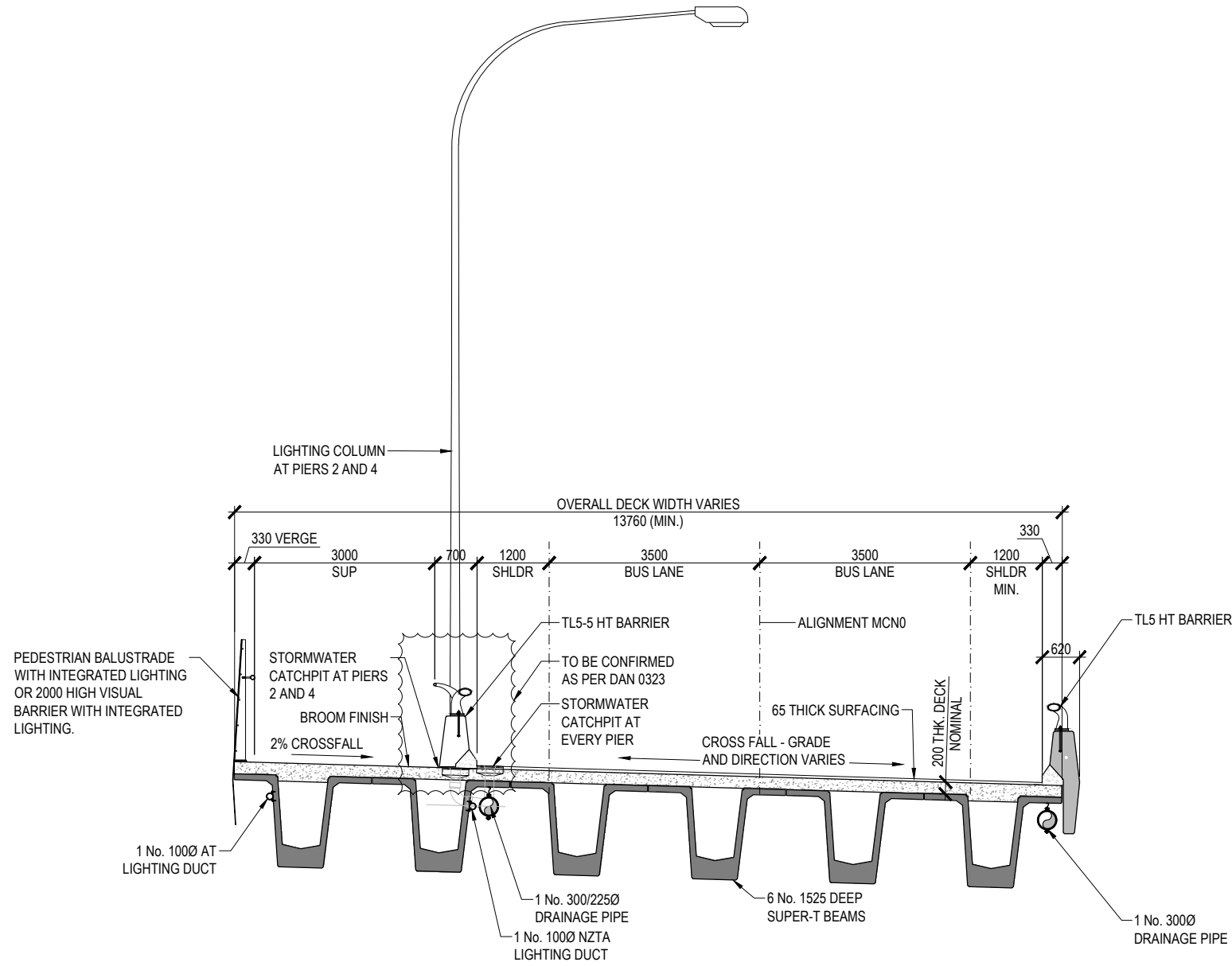


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PROJECT NUMBER	IZ093500 / 1-C1592	DRAWN	MR	DRAWING CHECK	RH
		DESIGNED	AF	DESIGN REVIEW	PC
		APPROVED	MM		
		DRAWING No	NCI-S-3005-SK-7506	REV	A

SHEET 1 OF 2

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SECTION A
 SCALE 1:100 (A3) 7505
 TYPICAL SECTION - PIERS 1-4

SAFETY IN DESIGN INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing set, note the following significant residual risks. (Reference shall also be made to the Safety in Design Register)

Construction

CONSTRUCTION ACTIVITIES ADJACENT TO OPERATIONAL ROADS/FOOTPATHS/CAR PARKS. TTM TO BE SET UP. (C049, C050)

EXISTING SERVICES IN THE AREA. ALL SIGNIFICANT SERVICES TO BE LOCATED ON SITE BY SUITABLY TRAINED CAT OPERATOR PRIOR TO COMMENCEMENT OF EXCAVATION WORKS. (C094, C131)

HEAVY LIFTING - BRIDGE BEAMS TO BE LIFTED BY CRANES OF SUFFICIENT CAPACITY AND BOOM. (C102)

TEMPORARY SUPPORTS FOR PIER CAP BEAMS. CONSTRUCTOR TO ENSURE PIER CAP BEAM STABILITY DURING INSTALLATION OF THE SUPER-T BEAMS.

ERECTION OF PRECAST BEAMS. TTM AND SAFE LIFT PLANS TO BE PUT IN PLACE.

WORKING AROUND ENERGISED SERVICES (C111)

Maintenance / Operation

BRIDGE (I.E. BEARINGS, CANOPIES, LIGHTING COLUMNS, LUMINAIRES, ETC.) MAINTENANCE AND INSPECTION WILL REQUIRE WORKING ADJACENT TO LIVE TRAFFIC AND AT HEIGHTS. TTM WILL BE REQUIRED.

Decommissioning / Demolition

HIGH RISK ACTIVITY OVER LIVE TRAFFIC. TTM WILL BE REQUIRED.

UNEXPECTED COLLAPSE

NOISE AND DUST POLLUTION. REQUIRED TTM.

DAMAGE CAUSED BY PRESTRESSED STRANDS. PRESTRESSED STRANDS PRESENT IN THE SUPER TEE BEAMS AND EXTENDED INTO THE CAP BEAM AT INTEGRAL PIER LOCATIONS.

NOTES:

1. FOR GENERAL NOTES, REFER TO NCI-S-3040-DG-7001 TO 7005.

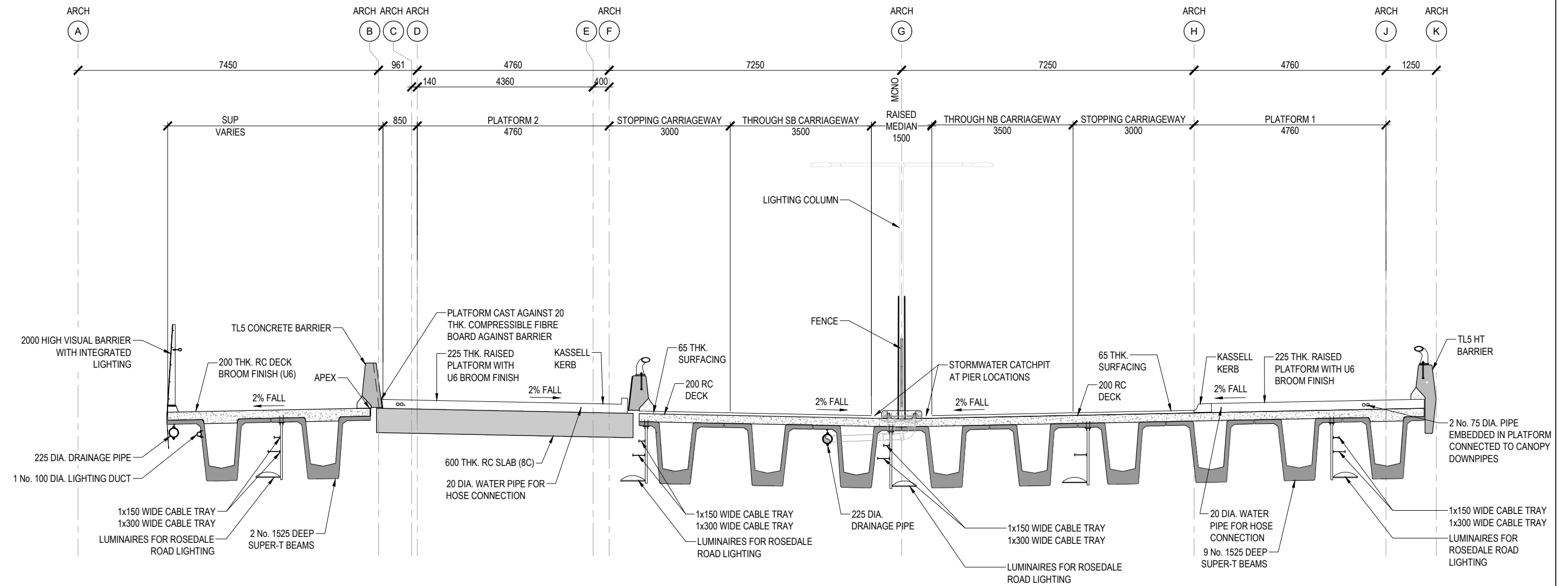
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1:100 @ A3					



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PROJECT NUMBER	IZ093500 / 1-C1592

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PROJECT	NORTHERN CORRIDOR IMPROVEMENTS (NCI)	
DRAWN MR	DRAWING CHECK RH	APPROVED MM
DESIGNED AF	DESIGN REVIEW PC	

TITLE	BR05 - ROSEDALE RD BUSWAY BRIDGE TYPICAL CROSS SECTION SHEET 1 OF 5	
DRAWING No	NCI-S-3005-SK-7510	
REV	A	



SECTION C
 SCALE 1:100 (A3) 7505

- NOTES:
- FOR GENERAL NOTES, REFER TO NCI-S-3040-DG-7001 TO 7005.
 - FOR MISCELLANEOUS DETAILS (SERVICE HANGERS, DRAINAGE CATCHPIT, LIGHTING COLUMN, CONNECTION ETC) REFER TO NCI-S-3040-DG-7643 TO 7649.

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Northern Corridor Improvements

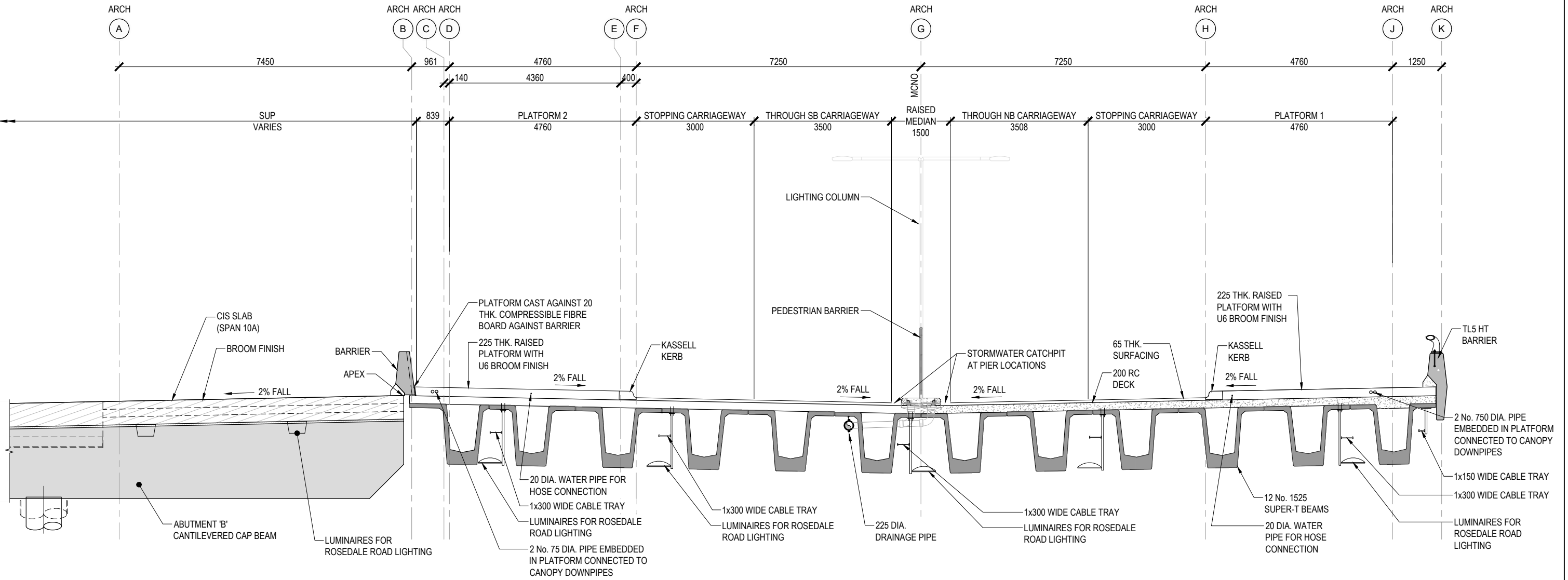
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 DESIGNED AF
 DRAWING CHECK RH
 DESIGN REVIEW PC
 APPROVED MM

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 DRAWING No NCI-S-3005-SK-7512
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SECTION D
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(ABUTMENT B)

- NOTES:**
- FOR GENERAL NOTES, REFER TO NCI-S-3040-DG-7001 TO 7005.
 - FOR MISCELLANEOUS DETAILS (SERVICE HANGERS, DRAINAGE CATCHPIT, LIGHTING COLUMN, CONNECTION ETC) REFER TO NCI-S-3040-DG-7643 TO 7649.

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Northern Corridor Improvements

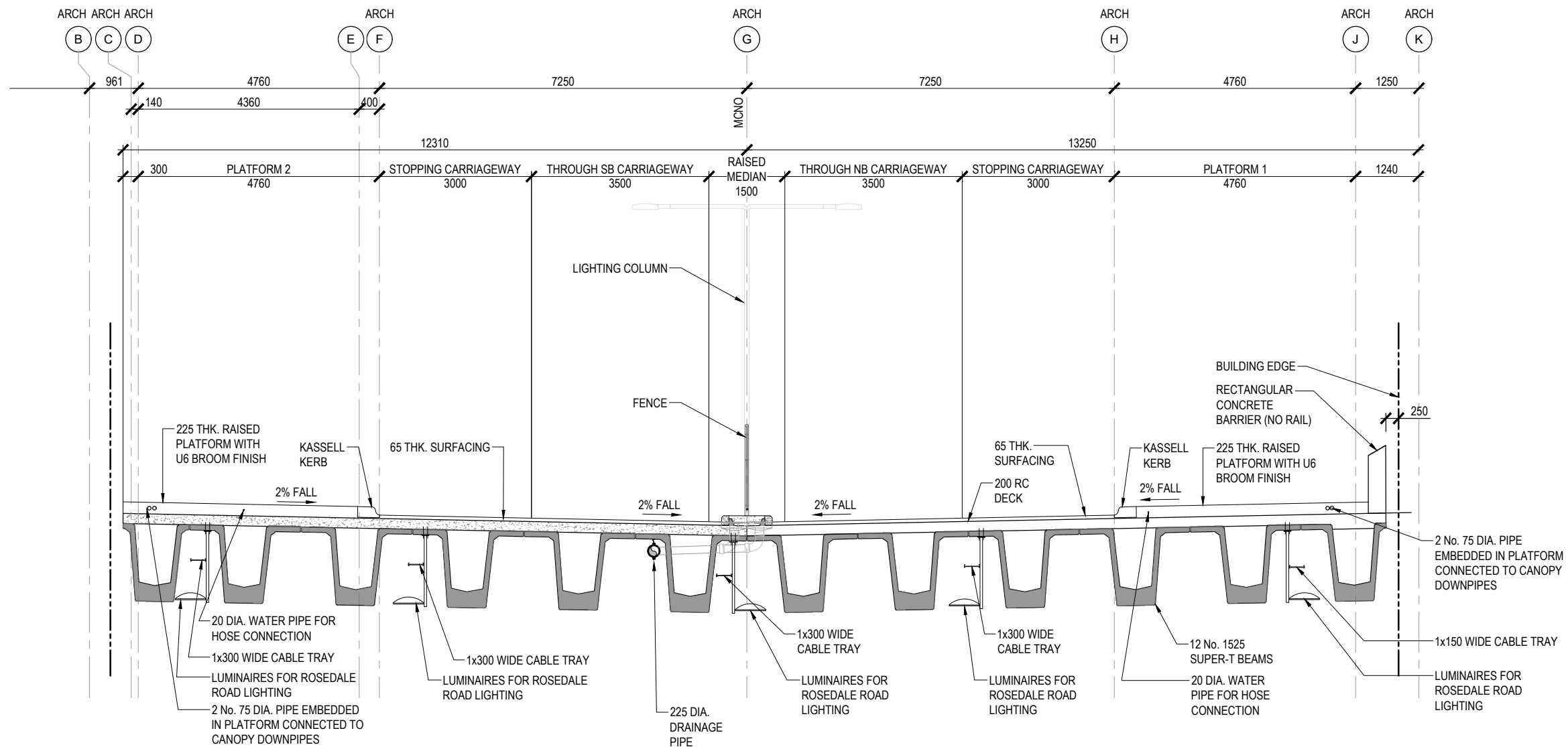
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DESIGNED AF	DESIGN REVIEW PC	

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SECTION E
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- NOTES:**
- FOR GENERAL NOTES, REFER TO NCI-S-3040-DG-7001 TO 7005.
 - FOR MISCELLANEOUS DETAILS (SERVICE HANGERS, DRAINAGE CATCHPIT, LIGHTING COLUMN, CONNECTION ETC) REFER TO NCI-S-3040-DG-7643 TO 7649.

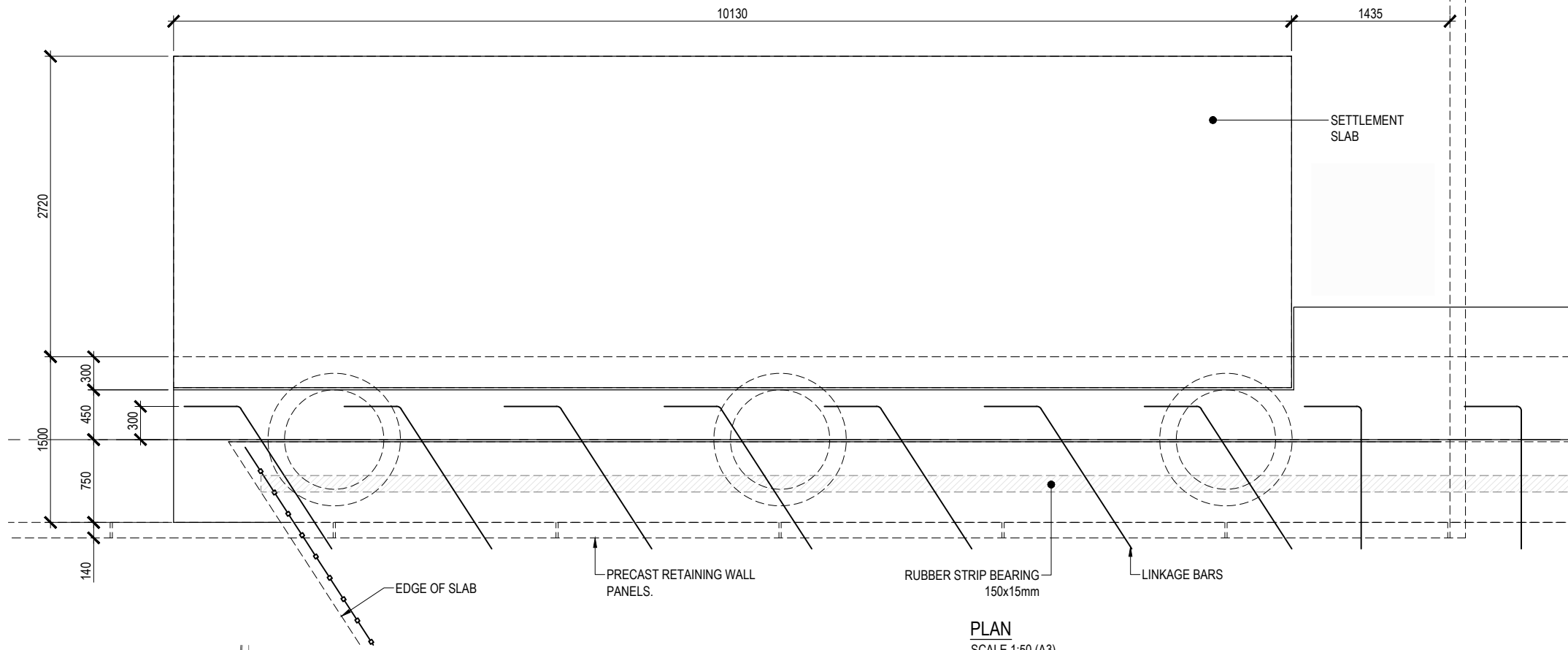
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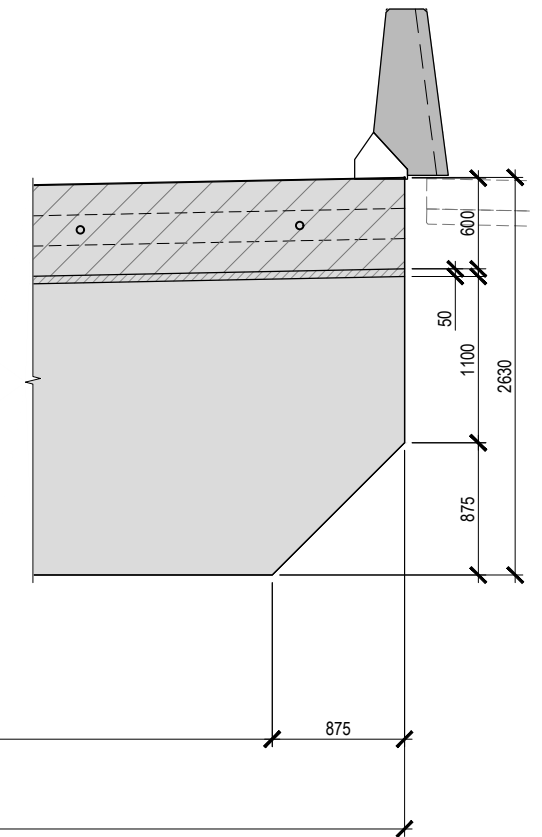
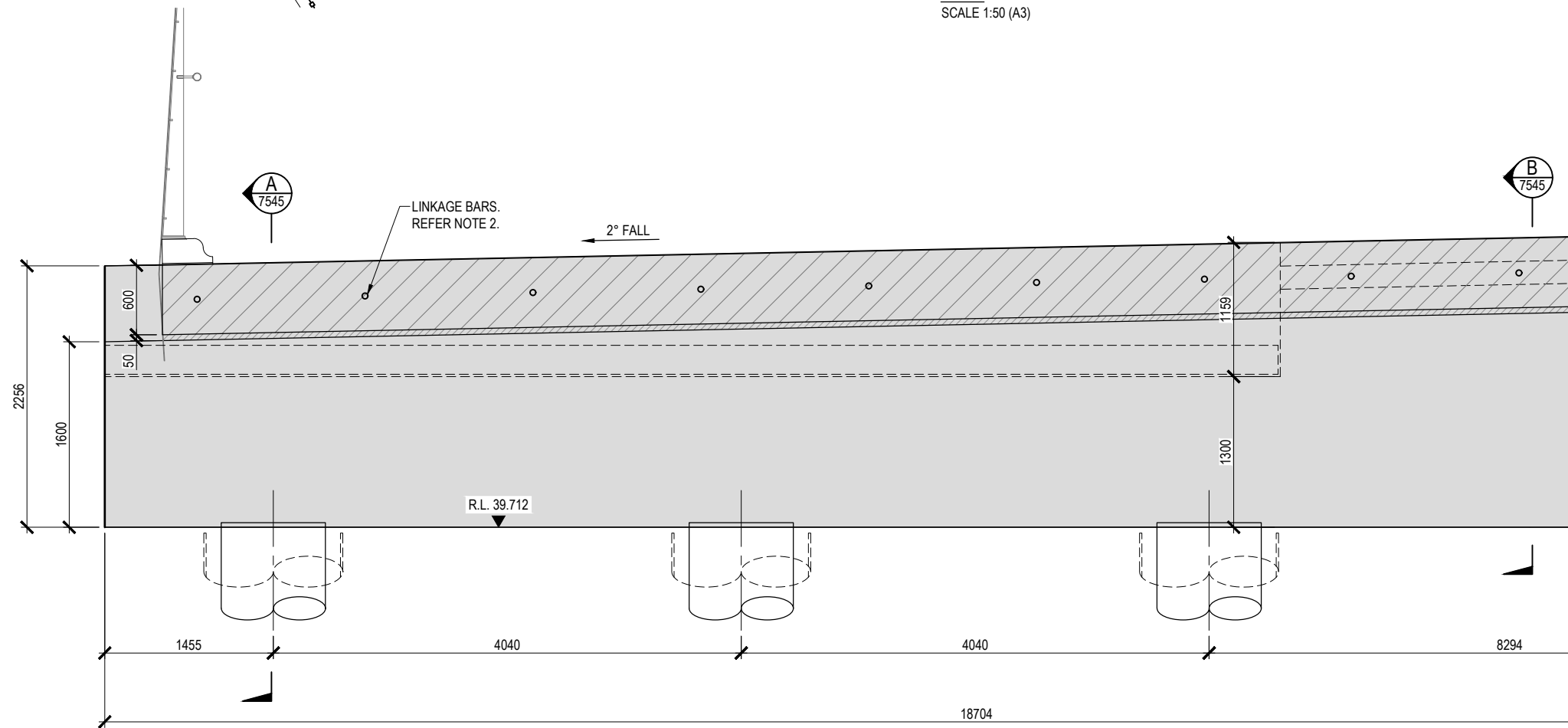
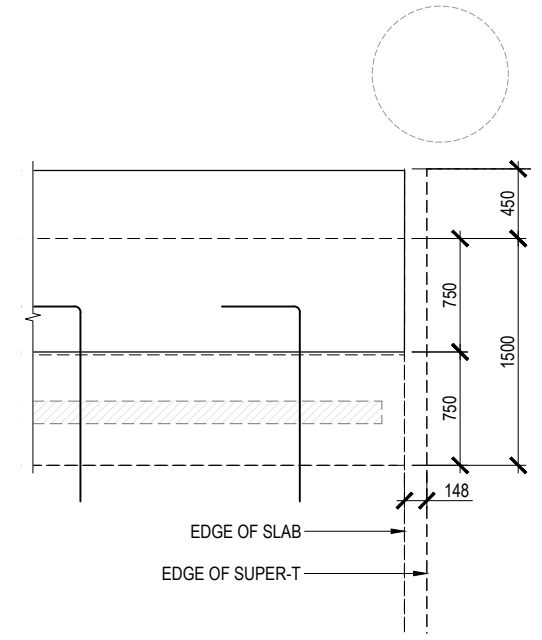
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		DESIGNED	DESIGN REVIEW	
		AF	PC	
DRAWING No			NCI-S-3005-SK-7514	
			REV A	

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- NOTES:**
- FOR GENERAL NOTES, REFER TO NCI-S-3040-DG-7001 TO 7005.
 - FOR BEARING AND LINKAGE BAR DETAILS REFER TO NCI-S-3005-DG-7645.
 - FOR MISCELLANEOUS DETAILS (SERVICE HANGERS, DRAINAGE CATCHPITS, LIGHTING COLUMN CONNECTION, ETC.) REFER TO NCI-S-3005-DG-7643-7649.

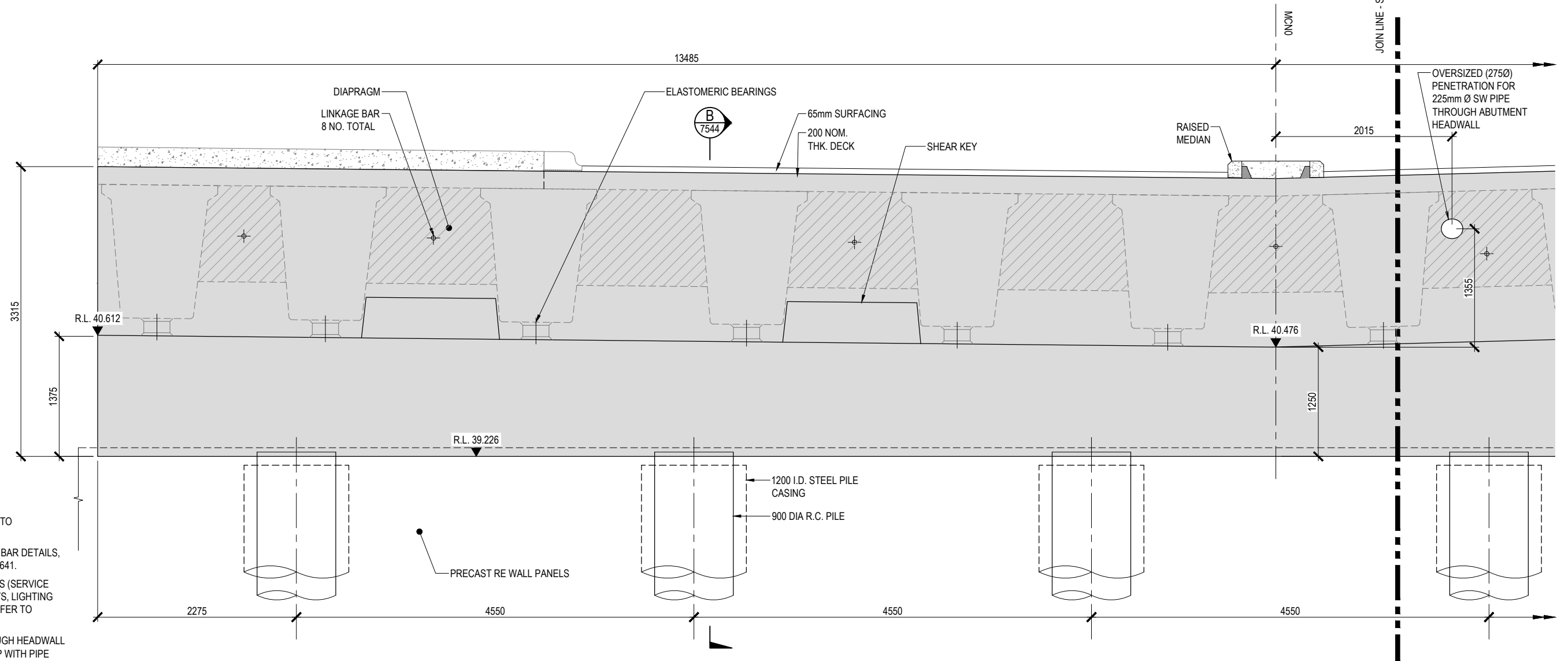
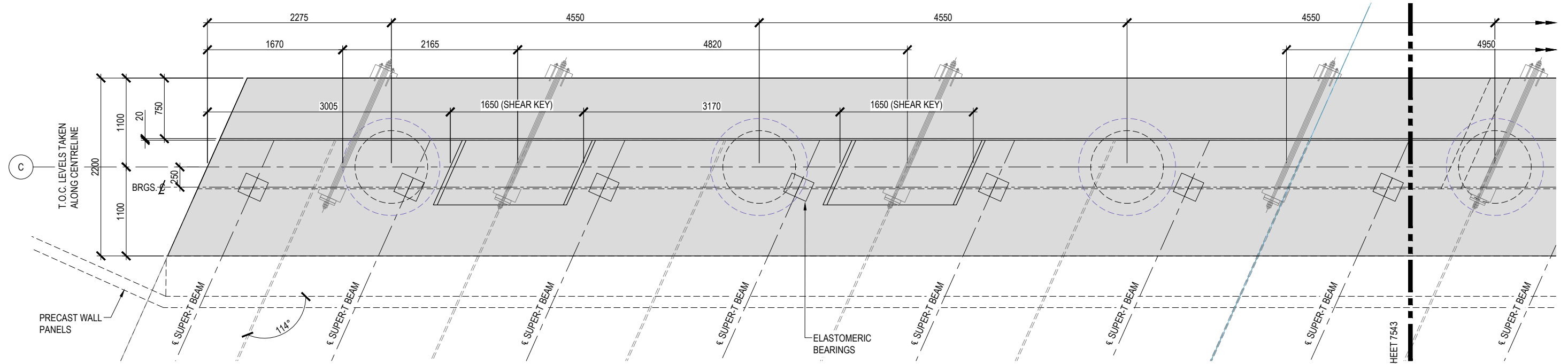


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PROJECT NUMBER IZ093500 / 1-C1592	DRAWN DR DESIGNED AF	DRAWING CHECK RH DESIGN REVIEW PC
	APPROVED MM	REV A

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NOTE:

1. FOR GENERAL NOTES REFER TO NCI-S-3040-DG-7001-7005.
2. FOR BEARINGS AND LINKAGE BAR DETAILS, REFER TO NCI-S-3005-DG-7640-7641.
3. FOR MISCELLANEOUS DETAILS (SERVICE HANGARS, DRAINAGE CATCHPITS, LIGHTING COLUMN CONNECTION, ETC) REFER TO NCI-S-3005-DG-7643-7649.
4. SERVICE PENETRATION THROUGH HEADWALL AND DIAPHRAGM SHALL LINE UP WITH PIPE HANGER INSERTS ON SUPER-T.

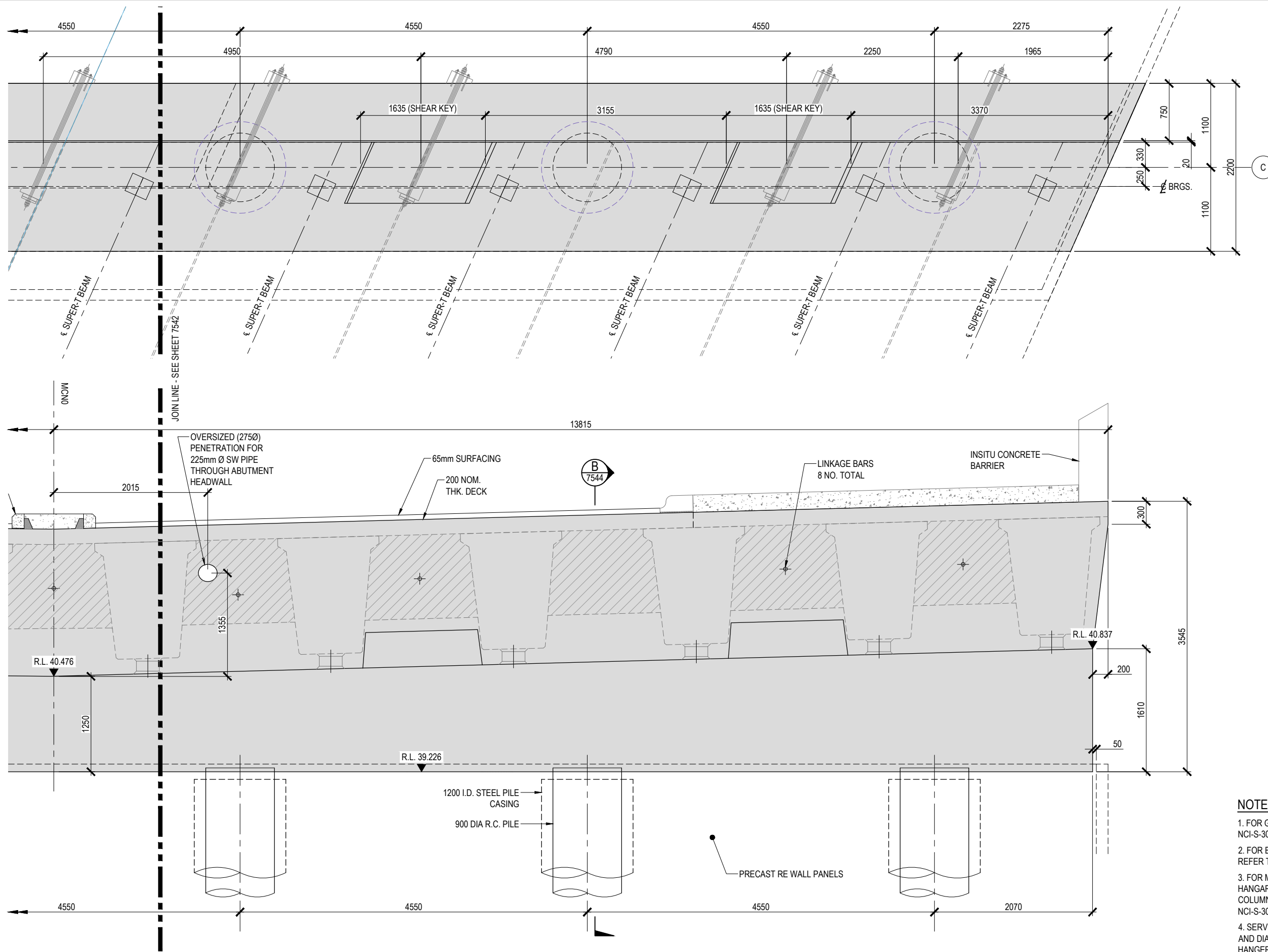
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NOTE:

1. FOR GENERAL NOTES REFER TO NCI-S-3040-DG-7001-7005.
2. FOR BEARINGS AND LINKAGE BAR DETAILS, REFER TO NCI-S-3005-DG-7640-7641.
3. FOR MISCELLANEOUS DETAILS (SERVICE HANGARS, DRAINAGE CATCHPITS, LIGHTING COLUMN CONNECTION, ETC) REFER TO NCI-S-3005-DG-7643-7649.
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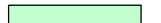
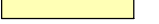

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PROJECT NUMBER IZ093500 / 1-C1592	DRAWN DR DESIGNED AF	DRAWING CHECK RH DESIGN REVIEW PC
	APPROVED MM	REV A

Appendix 2

LEGEND

- NCI DESIGNATION: 
- PROPERTY BOUNDARY: 
- PROPOSED BUSWAY: 
- PROPOSED SUP: 
- AREA OF ALTERED DESIGNATION: 



CONTAINS 2016 AERIAL IMAGERY SOURCED FROM NZ TRANSPORT AGENCY UNDER CREATIVE COMMONS 3.0 NEW ZEALAND (BY)

SCALE 1:500



CLIENT

REV	DATE	REVISION DETAILS	APPROVED
A	22.05.19	ISSUED FOR MINOR ALTERATION TO NCI DESIGNATION	J. LOVELOCK

SCALE	SIZE
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DRAWN	J. LOZANO
DESIGNED	W. COOKE
REVIEWED	J. LOVELOCK

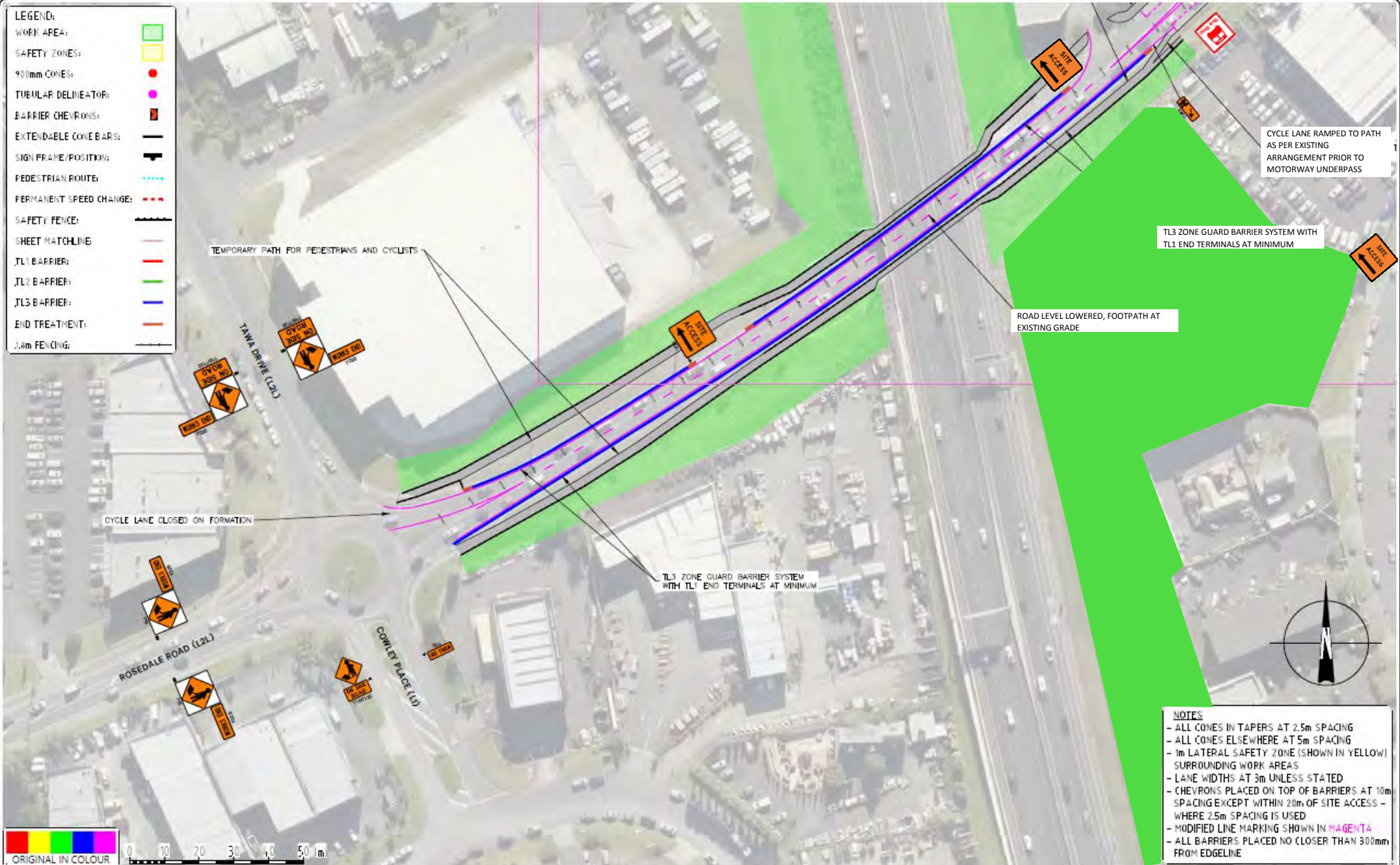
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NOT FOR CONSTRUCTION

APPROVED DATE

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NCI PROJECT	MINOR ALTERATION TO NCI					
DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
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Appendix 3

- LEGEND:**
- WORK AREA: 
 - SAFETY ZONES: 
 - 900mm CONES: 
 - TUBULAR DELINEATOR: 
 - BARRIER CHEVRONS: 
 - EXTENDABLE CONE BARS: 
 - SIGN FRAME/POSITION: 
 - PEDESTRIAN ROUTE: 
 - PERMANENT SPEED CHANGE: 
 - SAFETY FENCE: 
 - SHEET MATCHLINE: 
 - TL1 BARRIER: 
 - TL2 BARRIER: 
 - TL3 BARRIER: 
 - END TREATMENT: 
 - 3.0m FENCING: 



CYCLE LANE RAMPED TO PATH AS PER EXISTING ARRANGEMENT PRIOR TO MOTORWAY UNDERPASS

TL3 ZONE GUARD BARRIER SYSTEM WITH TL1 END TERMINALS AT MINIMUM

ROAD LEVEL LOWERED, FOOTPATH AT EXISTING GRADE

TL3 ZONE GUARD BARRIER SYSTEM WITH TL1 END TERMINALS AT MINIMUM

TEMPORARY PATH FOR PEDESTRIANS AND CYCLISTS

CYCLE LANE CLOSED ON FORMATION



- NOTES**
- ALL CONES IN TAPERS AT 2.5m SPACING
 - ALL CONES ELSEWHERE AT 5m SPACING
 - 1m LATERAL SAFETY ZONE (SHOWN IN YELLOW) SURROUNDING WORK AREAS
 - LANE WIDTHS AT 3m UNLESS STATED
 - CHEVRONS PLACED ON TOP OF BARRIERS AT 10m SPACING EXCEPT WITHIN 20m OF SITE ACCESS - WHERE 2.5m SPACING IS USED
 - MODIFIED LINE MARKING SHOWN IN MAGENTA
 - ALL BARRIERS PLACED NO CLOSER THAN 300mm FROM EDGELINE



Rev	Description	By	Chk	Date
1	INITIAL DRAFTING	A.T.	D.T.	27/11/18

DRAWING ORIGINATOR



Northern Corridor Improvements

Northern Corridor Engineering Ltd. Telephone: 09 538 5300
 Email: enquiries@northernimprovements.co.nz
 17-18 Mitchell Lane, Parnell Email: info@northernimprovements.co.nz

ORIGINAL SCALE:
1:1000
A3

DRAWN & CHECKED BY:
Andrew Young Email: andy.young@northernimprovements.co.nz
Date: 27/11/2018

PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:



Northern Corridor Improvements

DRAWING TITLE:
NCI PROJECT
ROSEDALE ROAD, ROSEDALE
L2L LONGTERM SETUP - STAGE 1

DRAWING NO.:
NCI-Z1-026

SHEET NO.:
Sheet 1 of 2

LEGEND:

WORK AREA:	
SAFETY ZONES:	
900mm CONES:	
TUBULAR DELINEATOR:	
BARRIER CHEVRONS:	
EXTENDABLE CONE BARS:	
SIGN FRAME/POSITION:	
PEDESTRIAN ROUTE:	
PERMANENT SPEED CHANGE:	
SAFETY FENCE:	
SHEET MATCHLINE:	
TL1 BARRIER:	
TL2 BARRIER:	
TL3 BARRIER:	
END TREATMENT:	
3.6m FENCING:	



TEMPORARY PATH FOR PEDESTRIAN AND CYCLISTS

CYCLE LANE RAMPED TO PATH AS PER EXISTING ARRANGEMENT PRIOR TO MOTORWAY UNDERPASS

TL3 ZONE GUARD BARRIER SYSTEM WITH TL1 END TERMINALS AT MINIMUM

ROAD LEVEL LOWERED, FOOTPATH AT EXISTING GRADE

- NOTES**
- ALL CONES IN TAPERS AT 2.5m SPACING
 - ALL CONES ELSEWHERE AT 5m SPACING
 - 1m LATERAL SAFETY ZONE (SHOWN IN YELLOW) SURROUNDING WORK AREAS
 - LANE WIDTHS AT 3m UNLESS STATED
 - CHEVRONS PLACED ON TOP OF BARRIERS AT 10m SPACING EXCEPT WITHIN 20m OF SITE ACCESS - WHERE 2.5m SPACING IS USED
 - MODIFIED LINE MARKING SHOWN IN MAGENTA
 - ALL BARRIERS PLACED NO CLOSER THAN 300mm FROM EDGELINE



Rev	Description	By	Chk'd	Date
1	INITIAL DRAWING	A.T.	S.T.	9/11/18

DRAWING INFORMATION:

TRANSPORT AGENCY Northern Corridor Improvements

Head Office: 100-110 Victoria Road, Auckland
 Telephone: 09 488 5000
 Website: www.transport.govt.nz
 12-16 Nichols Lane, Auckland Email: info@transport.govt.nz

ORIGINAL SCALE:
1:1000
A3

DRAWN & CHECKED BY:
Author: Young (Email: S.T.Y.P. @1888). 06/04/2018
Date: 11/04/2018
Drawn: Young (Email: S.T.Y.P. @1888). 11/04/2018

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PREPARED FOR CLIENT / CONTRACTOR / PROJECT / CONTRACT:

TRANSPORT AGENCY Northern Corridor Improvements

DRAWING TITLE:

NCI PROJECT
ROSEDALE ROAD, ROSEDALE
L2L LONGTERM SETUP - STAGE 1

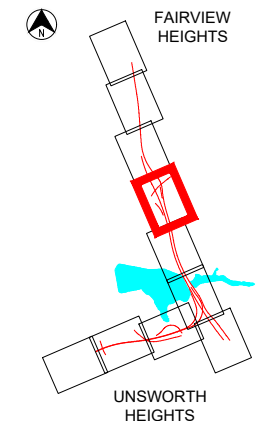
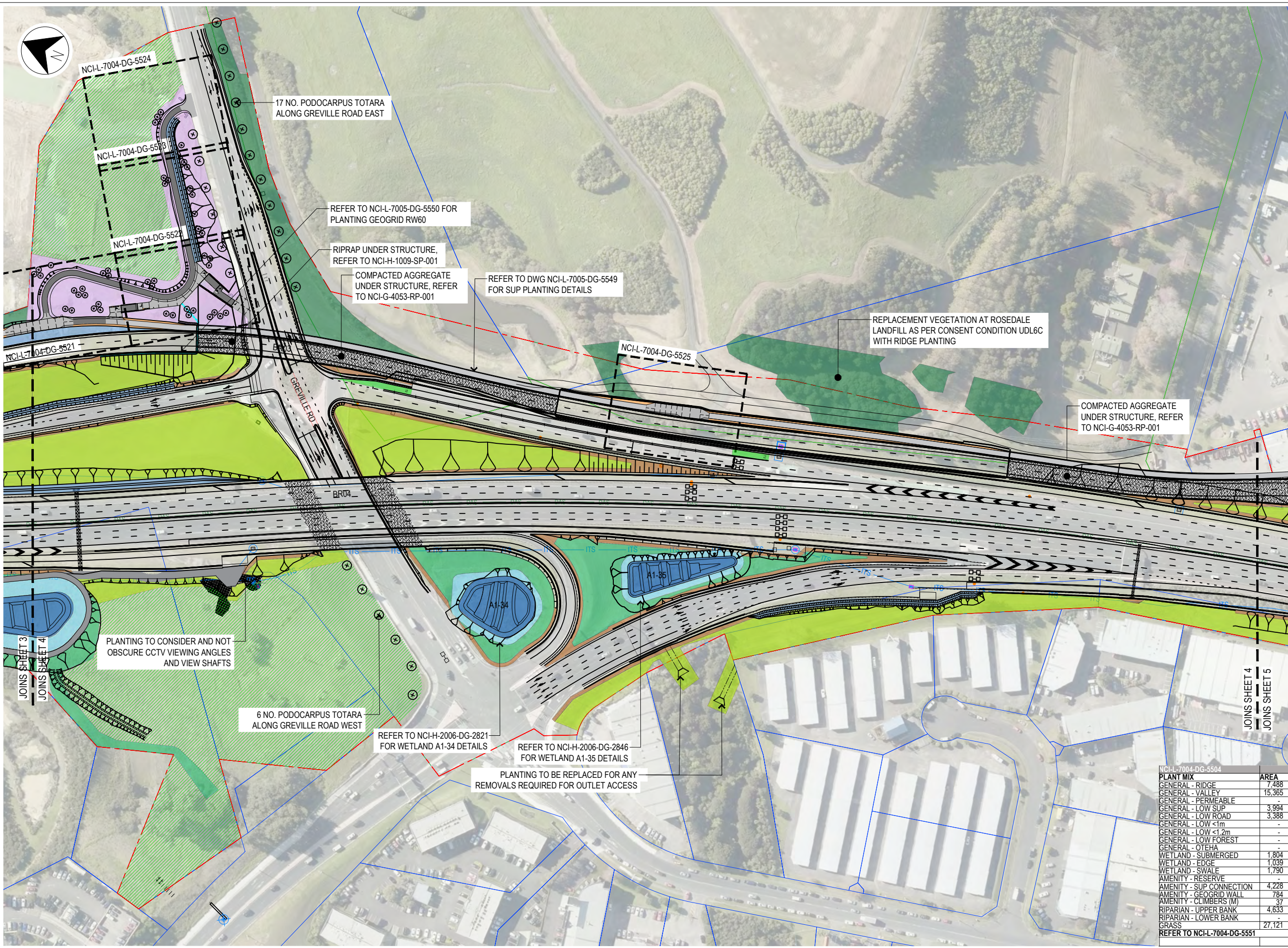
DRAWING TITLE:
NCI-Z1-026

SHEET NO.:
Sheet 2 of 2

Appendix 4

MAY CONTAIN 2016 AERIAL IMAGERY SOURCED FROM NZ TRANSPORT AGENCY UNDER CREATIVE COMMONS 3.0 NEW ZEALAND (BY)

DATE: 7/05/2019 2:05:10 PM, LOCAN NAME: DANIEL TURKCON, LOCATION: I:\bbs\3000 - 3899\3000 - 3899\3888 NCI\B File - Drawings\B3 - Display Files\A\CAD\7000 LDI\A\Rosedale Consent\NCI-L-7004-DG-5501 Planting Plans.dwg



- LEGEND:**
- PERMANENT WORK DESIGNATION BOUNDARY
 - SHARED USER PATH (SUP) OR WETLAND TRACK
 - GEOGRID PLANTED RETAINING WALL
 - CLIMBER PLANTING

- PLANTING MIX TYPE:**
- SPECIMEN TREES
 - GENERAL: RIDGE, VALLEY, PERMEABLE, LOW - SUP, LOW - ROAD, LOW - <1m, LOW - <1.2m, LOW - FOREST, OTEHA
 - WETLAND: SUBMERGED, EDGE, SWALES
 - AMENITY: RESERVE, SUP CONNECTION
 - RIPARIAN: UPPER BANK, LOWER BANK
 - GRASS

- NOTES:**
- REFER TO PLANTING PACKAGE FOR SETOUTS, TYPOLOGIES, DETAILS AND SCHEDULE
 - REFER FOR HARDWORKS PACKAGE FOR PAVING AND FURNITURE
 - REFER TO FENCING PACKAGE FOR FENCE TYPES
 - REFER TO NZTA P39 STANDARD SPECIFICATIONS FOR HIGHWAY LANDSCAPE TREATMENTS FOR PLANTING SPECIFICATIONS

PLANT MIX	AREA
GENERAL - RIDGE	7,488
GENERAL - VALLEY	15,365
GENERAL - PERMEABLE	-
GENERAL - LOW SUP	3,994
GENERAL - LOW ROAD	3,388
GENERAL - LOW <1m	-
GENERAL - LOW <1.2m	-
GENERAL - LOW FOREST	-
GENERAL - OTEHA	-
WETLAND - SUBMERGED	1,804
WETLAND - EDGE	1,039
WETLAND - SWALE	1,790
AMENITY - RESERVE	-
AMENITY - SUP CONNECTION	4,228
AMENITY - GEOGRID WALL	784
AMENITY - CLIMBERS (M)	37
RIPARIAN - UPPER BANK	4,633
RIPARIAN - LOWER BANK	-
GRASS	27,121

REFER TO NCI-L-7004-DG-5551

190515 p.1e

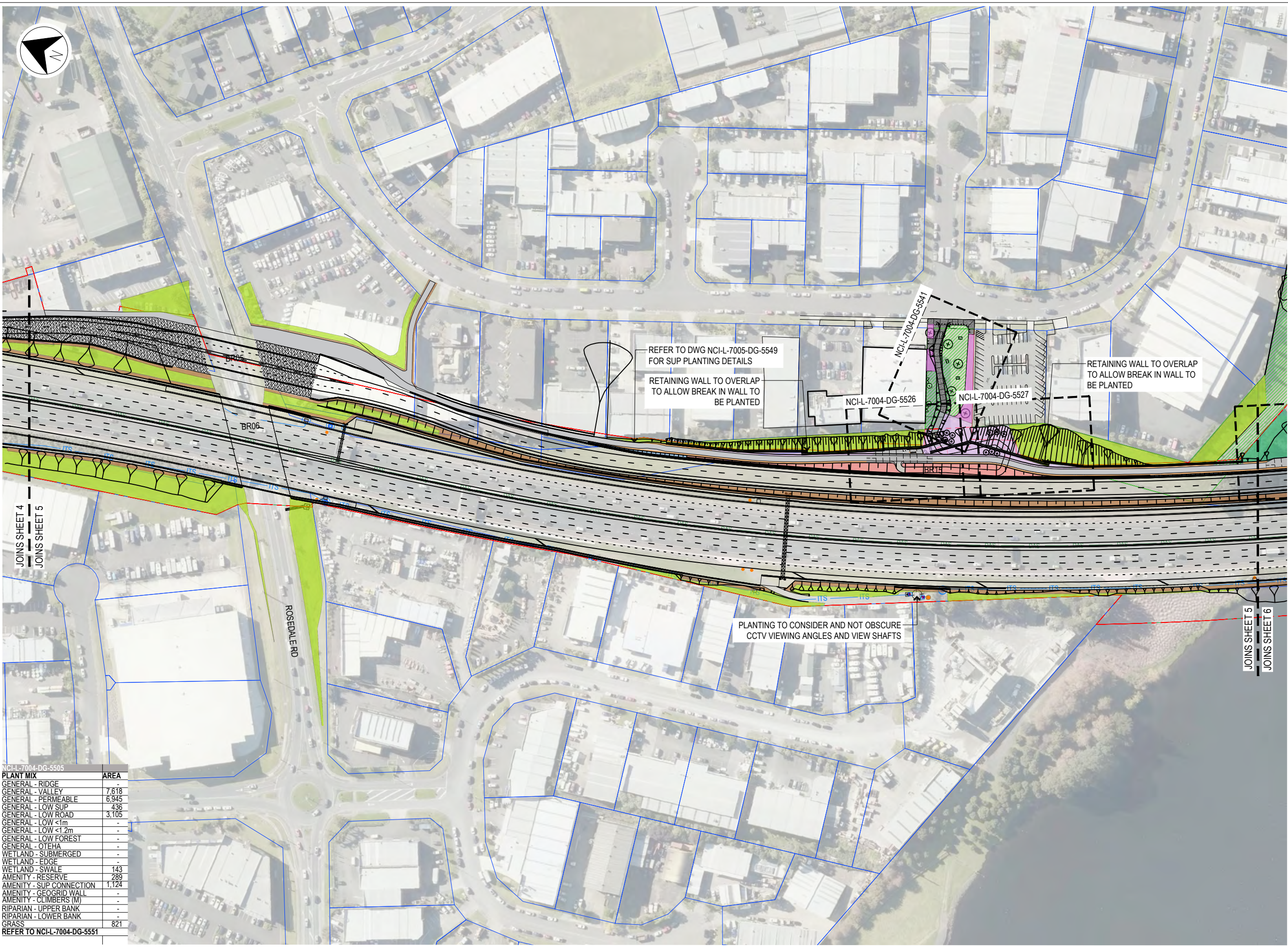
No	DATE	DRG CHECK	DESIGN REVIEW	APPD D.MGR	ISSUED FOR CONSENT	REVISIONS & ISSUES
A	07/06/19	RH	GB	MM	ISSUED FOR CONSENT	

Scale: 1:1000 @ A1, 1:2000 @ A3



SCALE	1:2000 (A3)	CLIENT	NZ TRANSPORT AGENCY	TITLE	PLANTING - ZONE 1 GENERAL ARRANGEMENT SHEET 4 OF 10
STATUS	FOR CONSENT	PROJECT	NORTHERN CORRIDOR IMPROVEMENTS (NCI)	DRAWING No	NCI-L-7004-DG-5504
PROJECT NUMBER	IZ080400 / 1-C1592	DRAWN DT	DESIGNED DT	DRAWING CHECK RH DESIGN REVIEW GB	APPROVED MM
					REV A

DATE: 7/05/2016 11:40 PM. LOGIN NAME: DANIEL TURFCON. LOCATION: I:\b33\3000 - 3898\3000 - 3898\3898 NCI15.Fab - Drawings\B3 - Display Files\ACAD\7000.LDI\LA\Resedale Consent\NCI-L-7004-DG-5501 Planting Plans.dwg. MAY CONTAIN 2016 AERIAL IMAGERY SOURCED FROM NZ TRANSPORT AGENCY UNDER CREATIVE COMMONS 3.0 NEW ZEALAND (BY)



PLANT MIX	AREA
GENERAL - RIDGE	-
GENERAL - VALLEY	7,618
GENERAL - PERMEABLE	6,945
GENERAL - LOW SUP	436
GENERAL - LOW ROAD	3,105
GENERAL - LOW <1m	-
GENERAL - LOW <1.2m	-
GENERAL - LOW FOREST	-
GENERAL - OTEHA	-
WETLAND - SUBMERGED	-
WETLAND - EDGE	-
WETLAND - SWALE	143
AMENITY - RESERVE	289
AMENITY - SUP CONNECTION	1,124
AMENITY - GEOGRID WALL	-
AMENITY - CLIMBERS (M)	-
RIPIARIAN - UPPER BANK	-
RIPIARIAN - LOWER BANK	-
GRASS	821
REFER TO NCI-L-7004-DG-5551	

No	DATE	DRG CHECK	DESIGN REVIEW	APPD D.MGR	ISSUED FOR CONSENT	REVISIONS & ISSUES
A	07/06/19	RH	GB	MM	ISSUED FOR CONSENT	

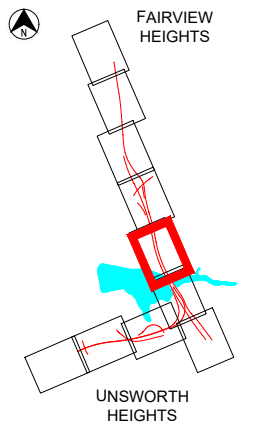


Northern Corridor Improvements

SCALE: 1:2000 (A3)
STATUS: FOR CONSENT
PROJECT NUMBER: IZ080400 / 1-C1592

CLIENT: NZ TRANSPORT AGENCY
PROJECT: NORTHERN CORRIDOR IMPROVEMENTS (NCI)
DRAWN BY: DT
DESIGNED BY: DT
DRAWING CHECK: RH
DESIGN REVIEW: GB
APPROVED: MM

TITLE: PLANTING - ZONE 1
GENERAL ARRANGEMENT
SHEET 5 OF 10
DRAWING No: NCI-L-7004-DG-5505
REV: A



- LEGEND:**
- [Red dashed line] PERMANENT WORK DESIGNATION BOUNDARY
 - [Grey hatched] SHARED USER PATH (SUP) OR WETLAND TRACK
 - [Light blue wavy] GEOGRID PLANTED RETAINING WALL
 - [Pink wavy] CLIMBER PLANTING

- PLANTING MIX TYPE:**
- [Green circle with cross] SPECIMEN TREES
- GENERAL**
- [Green] RIDGE
 - [Light green] VALLEY
 - [Light blue] PERMEABLE
 - [Orange] LOW - SUP
 - [Yellow] LOW - ROAD
 - [Yellow-green] LOW - <1m
 - [Yellow] LOW - <1.2m
 - [Light blue] LOW - FOREST
 - [Purple] OTEHA
- WETLAND**
- [Dark blue] SUBMERGED
 - [Medium blue] EDGE
 - [Light blue] SWALES
- AMENITY**
- [Pink] RESERVE
 - [Light pink] SUP CONNECTION
- RIPIARIAN**
- [Light green] UPPER BANK
 - [Dark green] LOWER BANK
- [Green hatched] GRASS

- NOTES:**
1. REFER TO PLANTING PACKAGE FOR SETOUTS, TYPOLOGIES, DETAILS AND SCHEDULE
 2. REFER FOR HARDWORKS PACKAGE FOR PAVING AND FURNITURE
 3. REFER TO FENCING PACKAGE FOR FENCE TYPES
 4. REFER TO NZTA P39 STANDARD SPECIFICATIONS FOR HIGHWAY LANDSCAPE TREATMENTS FOR PLANTING SPECIFICATIONS

190515 p01e